REPORT RESUMES

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REPORT OF A RESEARCH AND DEMONSTRATION PROJECT FOR CULTURALLY DISADVANTAGED CHILDREN IN THE ANCONA MONTESSORI SCHOOL.

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A PRESCHOOL EXPERIENCE WAS PROVIDED FOR LOWER-INCOME NEGRO CHILDREN, AND THEN THEIR GAINS OR LOSSES IN IQ AND SOCIAL INTEGRATION WERE EVALUATED IN TERMS OF THE TYPE OF THE TEACHING METHOD USED. THIRTY LOWER-INCOME NEGRO CHILDREN AND 17 MIDDLE-INCOME NEGRO AND WHITE CHILDREN WERE SEPARATED INTO THREE GROUPS AND EXPOSED TO THREE TEACHING METHODS. CLASS ONE WAS UNINTEGRATED (ALL LOWER-INCOME NEGRO CHILDREN) AND NON-MONTESSORIAL IN METHODOLOGY. IT WAS THE MOST UNRESTRICTED IN TERMS OF TEACHER CONTROL. CLASS TWO AS INTEGRATED AND NON-MONTESSORIAL, BUT TEACHER CONTROL AND RESTRICTION WAS MORE EVIDENT. CLASS THREE WAS INTEGRATED AND MONTESSORIAL. THE PUPILS HERE WERE THE MOST DISCIPLINED AND CONTROLLED. A THOROUGH STUDY WAS MADE OF THESE CLASSROOM PROCEDURES, TEACHING TECHNIQUES, AND PUPIL ACTIVITIES. THE RESULTS OF THE STANFORD-BINET INTELLIGENCE TESTS SHOWED NO SIGNIFICANT IQ GAIN AMONG THE GROUPS OR WITHIN A GROUP FROM TEST ONE AT THE BEGINNING OF THE EIGHT WEEK SUMMER SESSION TO TEST TWO AT THE END OF THE SESSION. BUT INDIVIDUAL GAINS APPEARED. THESE WERE FOUND TO BE AN INVERSE FUNCTION OF DISTRACTIBILITY. A WINTER PRE-SCHOOL SESSION, WITH NEW PUPILS AND USING ONLY THE MONTESSORI METHOD, RESULTED IN IQ GAINS. THIS WAS ATTRIBUTED TO AN IMPROVED CLASSROOM ATMOSPHERE. IN GENERAL, THE SESSIONS DID INCREASE THE CHILDREN'S READINESS TO BEGIN SCHOOL WORK AND HELPED THEM TO GAIN SOCIAL CONFIDENCE. ENCOURAGING PARENTAL INTEREST AND PARTICIPATION WAS A COLLATERAL ASPECT OF THE PROGRAMS. (WD)

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Report of a Research and Demonstration Project for Culturally Disadvantaged Children in the Ancona Montessori School

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I. General Description of the Summer and Winter Programs

Purpose of the Eight-Week Summer Project

The primary aim of this project was to provide summer preschool experience for a group of five-year-old lower income Negro children who were to enter kindergarten in two Chicago public schools in the fall of 1965. The preschool program was sponsored by and carried on in the Ancona Montessori School, but only one of the three classrooms that were established was a Montessori class, although Montessori materials were available for use by all. Our three head teachers differed in the nature of their experience and their goals for the summer. Thus we stress our intent to provide preschool experience in general rather than to use Montessori methods in particular.

In addition to the experience given to the children in the classrooms, we proposed to provide for medical evaluations of the children and to follow up any medical recommendations made. Furthermore, we proposed to develop a program stimulating current and continuing participation of the parents in their children's education.

The project also aimed at providing integrated education: in addition to the lower income Negro children, supported by OEO funds, a number of middle income Negro and white children who paid tuition were enrolled.

Finally, we conducted a research program designed to assess the effects of the preschool program and to provide a record of our experience. The purposes of the research, which is reported in the following pages, were (1) To provide a reasonably objective historical record of the

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nature of this project, its failures, successes and theideas developed in it.

(2) To objectively evaluate changes in intellectual and social behavior from the beginning to the end of the program.

(3) To assess the attitudes and social interaction of lower income Negro children and middle income white children in our two integrated classrooms.

(4) To provide some rough assessment of the utility of Montessori materials in an eight-week preschool program through a comparison of classrooms making much and little use of these materials.

Overview of the Summer Project

The project was sponsored by the Ancona Montessori School, which is located in the Kenwood area of Chicago, within a racially integrated middle income community and adjacent to a lower income area which is predominately Negro. Thirty lower income Negro children were enrolled for the entire eight weeks, and 17 middle income Negro and white children were enrolled for four or eight weeks.

There were three classrooms of 12 to 16 children, two of which were integrated for race and income level, and one which was unintegrated, consisting of all lower income Negro children. The composition of these classes is thoroughly described in Section II of this report. School was in session each week-day from 9:00 a.m. until noon.

Adjunctive activities included a medical program and a program for parent involvement.

Establishing a Link with the Public Schools

The director of the summer project was the principal of the Shoesmith elementary school, which half of the lower income children attended in the fall. The assistant principal of the Shakespeare school, which the rest of the children attended, served as a consultant to the project and directed therecruitment of children. These men were asked to join the project because we wished immediately to establish a link with the public schools which the children would attend, a link which would inform the schools of the nature and intent of our program, and which would facilitate carry-over to the public schools of whatever parent interest and participation we might establish. This intent was realized best in the case of the Shoesmith parents, because a cohesive group (described in the social worker's report) was established among them, and because the principal of the Shoesmith school was in contact with the program the entire eight weeks, was acquainted with many of the parents, and was instrumental in the initial formation of the parent group.

In both public schools, the tie we established facilitated our follow-up of the children in the fall, both for evaluation of the summer program, and, in the case of the Shakespeare school, to enable the summer preschool teacher to see the children again and exchange ideas about them with their kindergarten teachers. We furnished reports to both schools on all children whom we tested.

Recruitment of Children for the Summer Project

We were fortunate to have our recruitment directed by the assistant principal of the Shakespeare School. He is a person known in the neighborhood to both parents and children as someone associated with the public school, so he was an ideal person to introduce our program to the neighborhood. He and one other person (a research assistant or one of our teachers) canvassed two areas near the Ancona School, in the Shoesmith and Shakespeare districts, respectively, until they found the full complement of 30 children. They rang doorbells, spoke to people in the street, and asked for referrals to friends and relatives. This face-to-face recruitment proved very effective. Though some parents were hesitant and suspicious when the recruiters began, each subsequent visit to the area found more parents who had heard about the program and were receptive to it. The recruiters succeeded in finding all the children we could accommodate within a two-block area in each district. All children were within three blocks of the Ancona School. School and other parents and children were therefore close for each family involved in our program, and communication among parents and between parents and teachers was enhanced.

Our only test for eligibility for the program was the age of the child. We did not question parents about income level since the general character of the area in which the recruiting was done rendered this unnecessary. All our families lived within or adjacent to the North Kenwood area, classified by the Chicago Committee on Urban Opportunity as "an area of greatest concentration of poverty," where the majority of residents have an income of $3000 per year or less. In the group of families from which our children were finally recruited, two-thirds were father-absent homes, most of which were receiving Aid to Dependent Children. In the third of the families where the father was present, no father's occupational level was above that of skilled blue-collar work. We kept our questions to the parents to the minimum necessary for the school and teachers, and focused in our recruitment upon the child, the preschool program, and arrangements for medical examinations and the beginning of school.

Medical Program for the Summer Project*

In order to fully provide the "Headstart" implicit in the project a concentrated effort was made to fully integrate the medical care with the rest of the work. A child psychiatrist at the University of Chicago directed the medical program. Four local private pediatricians, of whom two were approved to treat welfare patients, served as medical staff.

The school provided the initial examination by a pediatrician in his private office. Each child was assigned a physician who performed the initial examination the week preceding the beginning of school. That same pediatrician was responsible for supervision of the child's health during the entire session. The supervision took various forms since each physician was also assigned to a classroom and teacher and thus could confer with teachers, observe a child in class as well as continue his contact with the child's parents.

Although the school provided the initial examination it was not the intention of the project to give direct medical treatment. The stated goal was to have care provided by the family physicians or whatever the continuously responsible medical resource is for that family. If there was no clear medical resource responsible for a family the major effort was to find such a resource. Resources for special needs such as glasses or specific medical or surgical treatment were sought. Despite these goals because of the drastic lack of continuously available resources it was necessary for the medical staff to give immediate treatment. In these instances we lost the services of two of the physicians who were not approved to treat welfare cases.

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*This section of the report was prepared by Harold Boverman, M.D.

We insisted that parents be present during the initial history and physical in the private office of the physician. A medical history form was developed to be used by the parents with the help of project staff members. These same staff members provided transportation when necessary. The history provided necessary information to the physician about birth, growth and development, feeding, immunizations, previous illness and known present illness and defects that might interfere with learning and combined with other contacts helped establish contact between families, project staff and physician. The physicians completed the history and examination and these were then made available for the public school.

The medical program fell short in several respects. The pressure of the short time available between recruitment and the beginning of school, and the necessity for fitting the children into the doctor's schedules in that period of time did not enable us to assign each doctor to a classroom

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as planned. This could have been remedied by using a public assembly-line type of examination, however, our effort was to avoid "poverty-medicine" if at all possible. In this way contact between doctor and teacher was not close, but tended to be mediated by the research and social service staff. Another factor that restricted our medical program were the unrealistically low allowances for medical care in terms of both time and money. Where we had initially requested two hours of pediatric time for each child we were cut to less than one. Thus, the parents', the staffs' and the physicians' contacts with each other were too brief and the arrangements for appointments too removed from them to really stimulate the continuing contact and exchange necessary for productive consultation.

Nevertheless, the initial examinations were accomplished with few difficulties and the use of the private physician's office was a good arrangement. It was in attempting to implement the broader aspects of the project; consultation with teachers, observation of children in class, follow-up, meetings with parents, that we met with severe difficulties. The following is used for illustration: After having organized and settled, one parent-group spontaneously asked for regular meetings with a professional to discuss issues of feeding, clothing and behavioral standards for their children. The ordinary medical allotment was gone and it was difficult to find funds for a good maternal-child welfare nurse. During the searching the moment passed and the opportunity lost. There were other instances of consultation, observation and collaboration lost.

The difficulties were only partially because of staff limitations of energy, interest or skill and mainly because of unrealistic financing of an attempt to replace "poverty medicine" with quality care. Other project staff, social service and project aides, made resource hunting, appointment keeping and follow-up possible.

Social Worker's Report for the Summer Project*

A professionally trained social worker spending part-time as a consultant constituted the social work staff for the program. The focus of her work was not pre-formulated but evolved flexibly as the needs of the program presented themselves. The worker regularly observed the thirty children in the classroom and on the playground, followed through with parents and agencies on recommendations made in the physical examinations, conferred with classroom teachers, and participated in a mutually helpful interchange with the administrative and research personnel.

However, the major focus of the social work program became a mothers' group. The initial idea for the mothers' group came from the director of the program, Sam Ozaki. With his organizational assistance the worker led weekly group meetings with eight low income mothers of eight children in the program, selected because all the children in the group would be going on to the Shoesmith School where the project director is principal. He conceived that this group of mothers could become a core group at Shoesmith who might reach out to other low income families to involve them in the PTA and other aspects of the public school program. Up until this time Mr. Ozaki had been unsuccessful in involving the low income parents who constitute about one-third of the population of the school. All eight mothers lived in one apartment building adjacent to the Ancona School which proved to be fortuitous since it became possible for the mothers to come together to the meetings and to communicate with each other outside of the meetings.

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*This section of the report was prepared by Lila Gordon.

In the beginning the purpose of the group was generally conceived as an attempt to involve the mothers more closely with the school, its program and its goals. However, appropriately, the group itself quickly focused on its own uppermost concerns and needs. The mothers, who knew each other only slightly before contact with the school, became a cohesive working group unified around the immediate problem of the extremely deteriorated, vermin-ridden, dilapidated slum building in which they live. Their slumlord had been completely resistive to all their individual complaints and had ignored the many flagrant code violations which existed in the building. He had told each of the women that she was the only one complaining; the mothers realized how he had been manipulating them only when they brought their collective experiences to the group for discussion. With the developing involvement and increasing feeling of freedom to ventilate their feelings, the women were able to formulate specific goals for the group.

The group with the help of the worker established contact with the Department of Urban Renewal in which the services of all code departments are jointly available. The administrative head of DUR and his building and fire code representatives attended one of the group meetings and from that time on direct contact was maintained between two of the mothers

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and DUR. At the request of DUR the mothers made door to door visits in their building asking for a written list of complaints from each tenant--all of whom are low income families, many, like the mothers, on public assistance. The mothers were initially pessimistic about the success of this venture so the cooperation of all but two of the approximately 30 tenants spurred on the activity and enthusiasm and at the same time generated a productive contact among the tenants. The written complaints were presented to the director of the DUR office who, in turn, was rapidly moved into action.

Inspections were conducted, code violations confirmed, and court action with the slumlord ensued. Many improvements followed, with continued support and cooperation from DUR. The tangible success of the group's efforts (repaired holes in the plaster, the appearance of an exterminator, a new refrigerator, etc.) had a significant effect on the group's cohesiveness and helped to generate a feeling of individual pride among the women.

The mothers' involvement intensified with a projected plan to enroll younger siblings in a 1965-66 whole year program in the Ancona School. The most dramatic development was the mothers' increasing solidarity which led to more involvement with each other, giving these isolated women some mutual support and strength. For instance, when one pregnant mother unexpectedly had twins, the group rallied with a plan to supply extra clothing, bed space, and care for the mother's other children.

The mothers were extremely reluctant to see the regular group meetings terminate as the summer ended. They planned Sunday "teas"

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so that their "groupness" would continue.

The eight week part-time social work program did not allow sufficient time or service to permit individual casework with any of the children or mothers. However, it was felt by the social worker and the staff that the relationships that developed among the mothers, between the mothers and the school, between the mothers and the community, as well as the heightened interest in their children and their feeling of purpose and personal effectiveness were more important achievements than those accruing from the traditional case work orientation.

Additional Parent Participation in the Summer Program

The mothers' group described in the report of social work participation included mothers from only two of the classrooms (Classrooms 2 and 3, made up of children in the Shoesmith school district). In addition to this group, several other programs or events invited parent participation.

(1) The teachers in Classroom 1 (Shakespeare district) organized a mothers' group which met as a group three times during the eight-week period. Unlike the mothers' group organized by the social worker, this group had no community action focus. The group dealt entirely with questions of school activities and the children's reactions to school. Each child was discussed with his mother, and an attempt was made to understand and communicate about problems which had arisen. In addition, the teachers used these meetings to explain their program to the mothers. Ten of the 16 mothers in the class attended at least one of these meetings. This mothers' group, lacking both a community action program

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and a continuing interest in the Ancona School, did not meet after the summer session was over. However, it did perform its function of stimulating interest in the school and communication with the teachers during the summer program. The primary reason for the amount of participation in this group lay in the active efforts of the teachers. Notes, telephone calls, and visits to the children's homes were frequent occurrences, and led to teacher-parent contact which would have been impossible otherwise. Contact was made with, and participation elicited from the mothers of some of the most deprived children.

(2) Twice during the eight-week session, meetings were held for the parents of all the children enrolled in the summer session, including the middle income group. The intent of each meeting was to provide an opportunity for the parents to visit the school, to meet one another, and to learn about the project. On the first day of school, each child was brought by a parent, who was invited to meet the child's teachers and to attend an introductory meeting. This meeting was brief, and simply served to introduce the parents to the program and the administrative staff, and to invite their interest and participation in the program. At the second meeting, held during the sixth week of school upon the suggestion of the social worker's mothers' group, each teacher spoke to the group about the program in her classroom.

(3) Weekly trips taken by the children consistently elicited parent participation. Each week several mothers from the different classrooms, including both lower income and middle income parents, accompanied the group and helped to supervise other children as well as their own.

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Parent participation on the trips was consistently adequate to the needs of the group and was broadly distributed among the mothers. The efforts of the Classroom 1 teachers, in particular, led some mothers to participate who might otherwise have had little contact with the school.

(4) At some time after the middle of the eight-week session, the teachers scheduled individual conferences with each mother to discuss the progress of her child. The number of mothers who made and kept appointments was small. Classroom 1 teachers made home visits to a number of mothers to compensate for this, but this was not done in the other two classrooms.

(5) During the final week of school, an open house and picnic were held for the parents and children. During the first part of the morning the mothers who attended saw displays of the children's work and watched or participated in some typical classroom activities. The rest of the morning was spent picnicing at a local park. This format for the open house seemed a reasonable one in two respects: it did not require extensive preparation by the children, and it enabled the mothers to see some of the things that typically went on in the classes. Attendance at this final open house and outing was only moderately good, reflecting, perhaps, the fact that this was not a long-heralded event but only one of a series of occasions for visits to the school.

The general effect of these varied arrangements for stimulating parent participation was to provide at least brief contact between parent and teacher in every case, active participation or attendance at a meeting on at least one occasion for almost all the mothers, and repeated

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participation by about half of them. The most active, cohesive group was the mothers' group established by the social worker. It was apparent that this cohesion resulted from the group's dealing with its housing problems and not as yet from a focus upon the children (although children and school were discussed as well). The group established by the Classroom 1 teachers, which focused only upon the children and the school, was not as durable a group, but the teachers were able to stimulate a surprising amount of participation in it.

Extra-Classroom Activities of the Summer Preschool Program

Apart from the activities of the classrooms, the children spent one day each week on a trip. They visited a zoo, a forest preserve, the local fire station, an aquarium, an airfield, a museum of natural history. The final outing was a picnic for parents and children in a nearby park. The teachers prepared the children in advance for each trip by discussions of what they would see. In the case of the visit to the fire station, a movie about the work of firemen preceded the visit. The trips were followed up in the classrooms by recalling what had been seen-- in stroies read by the teachers, murals made by the children, and similar devices.

Though we made some mistakes in the trip planning (the trip to the forest preserve being too long, the natural history museum seeming too static to some teachers), this part of the program was quite successful over all. The children obviously enjoyed the trips and looked forward to them each week. The teachers felt the evident expansion of the children's experience and the additions to their vocabularies were quite worthwhile.

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Weekly movies were another activity in which the entire group participated. Films for children borrowed from the public library were used. This program was not particularly successful. First, the teachers did not know in advance what the film would be, and therefore were unable to prepare the children for them. Second, a number of the films proved to be beyond the children's level of comprehension, leading more to looking at one another than to looking at the film. A better movie program might have been built if the teachers had been able to choose the films with more care and to prepare the children for them. There seemed to be no objection to the use of movies as such; the children were able to give interested attention to them at times.

Teachers' Meetings During the Summer Program

Each week a meeting was held which was attended by teaching, research, and administrative staff. Though these meetings often dealt with administrative matters, their primary focus was upon teaching activities. An attempt was made to provide the teachers with the opportunity to exchange ideas and discuss problems, but this attempt was largely unsuccessful. Some of the teachers who spoke with us about the meetings suggested several reasons for their lack of success: (1) Because the meetings were attended by several people besides the teachers and because the staff members were all newly acquainted, the teachers were reluctant really to air problems in the group. We noted that the teachers became more free to discuss classroom matters as the program progressed, demonstrating how real this problem was initially.

(2) Because the teachers' philosophies and goals for the summer differed, there was a tendency to feel that a real exchange with one another would not be useful.

(3) Some of the teachers felt that an eight-week program did not provide sufficient time for the resolution of staff differences within and between classes, and therefore preferred not to confront them fully.

We discuss this issue at length because it became apparent to us that some of the teachers felt a need for consultation and exchange which was not met by the teachers' meetings. The summer's experience was new in some ways for most of our teachers, and all wanted to learn from their own experience and the experiences of others. The teachers did find some avenues of exchange in informal contacts with one another, and they were able to consult with the social worker about the problems of individual children, so that in fact some of their needs were met. That we did not maximize the possibilities forlearning by theteachers is perhaps thegreatest deficiency of our project.

One important reason for our failure to deal with this problem is a division of administrative responsibility which developed out of a delay in funding the project and the consequent uncertainty surrounding its beginnings. Administrative functions were not clearly defined, but were performed by whomever saw a need for action. This division of responsibility continued, and led to an inability to change direction once the project had begun.

A number of suggestions were made by the teachers for the enhancement of staff learning experiences in future projects.

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(1) A period of training and discussion for teachers and teaching aides, preceding the beginning of school.

(2) A clearly defined psychological consultant with whom to discuss problems with individual children and differences of point of view among the staff.

(3) More informal contacts among the teachers.

Overview of the Year-Long Winter Program

During the year following the summer program, ten 3- and 4-year-old children from lower income Negro families were enrolled in two of the regular classes of the Ancona School. Three children attended the morning class and seven attended the afternoon class of the teacher who had been our one Montessori teacher during thesummer program. Seven of the children were the younger siblings of children who had attended the summer program and whose mothers had formed the mothers' group established by the social worker. The children are now attending the regular Ancona School summer session and will continue to attend the school next year.

A research program was conducted during the year which at many points paralled the research done during the summer. Some of the data collected have been analyzed and are included here.. Descriptions of classroom and parent activities are also included in this report, so that they may be compared with those of the summer program.

Social Workers' Report on the Mothers' Group in the Winter Project*

Of the eight mothers in the summer program, seven continued with the group in the fall. The eighth mother no longer had a child who was age-eligible for the school program. She was replaced by a mother who had recently moved into the building and had a child of school age. In addition, the program was expanded to include two more mothers and children who did not live in the building adjacent to the school. One of these children was dropped in the middle of the school year because of excessive absenteeism; his mother had attended only one group meeting. The other child was the nephew of one of the regular members of the group. Although he lived less than a mile from the school, his attendance was usually contingent on bus transportation provided by the school. His mother attended meetings infrequently. The child was not able to continue in the program during the subsequent summer session because bus transportation was no longer available. The lack of bus transportation for the summer session also eliminated one more child from the program. His family had lived in the adjacent building until January when they were evicted and moved to another neighborhood; he was able to complete the school year only because of the school bus program, and his mother still attends meetings, although now irregularly. (In this group, attendance at meetings has been positively correlated with residential proximity to the school.) The present group, then, consists of seven mothers: six live in the neighboring building and the seventh did until June when she, too, was evicted. Four of the seven women attend the

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*This section of the report was prepared by Nancy Marks and Donna Rosenbush.

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meetings every week, two others attend about sixty per cent of the meetings, and the seventh woman comes to very few of the meetings at the school but does attend the meetings of the block club which the women started.

Two graduate social workers took over the social work aspects of the program in the fall, replacing the summer worker. During the early weeks, in addition to the regular group meetings, individual interviews were held with the mothers. The women had difficulty making the transition from their original social worker to the new workers, which was exacerbated by their not having known, until their final session with the first worker, that she was leaving. Some of the women who had been active participants in the summer group became the least active members of the current group for reasons which are not entirely clear. A nucleus of four women who, since December have attended every meeting, did not form immediately and for several months the group was in limbo. As it had during the summer, the group meets weekly for approximately one and a half hours. The structure of the meetings is informal; the social workers make coffee, some of the mothers bring their younger children, and the women sit around a table which has been provided by the school in a basement room, refurbished and attractively decorated by the school for the group.

The initial focus continued to be on the continuing problems of the building where most of the group lives. The workers reestablished contact with the Department of Urban Renewal and the group developed a strong relationship with the DUR field representative. His interest and ability to pressure the landlord to correct building violations which the group brought to his attention was a source of great encouragement to them. The landlord was taken to court by DUR in the fall of 1965, and following this there was a great upswing in correction of violations, but this soon passed. At the close of the school year the landlord continues to need prodding from the group, from the DUR, and from the neighborhood group with which the block club is affiliated, to get him to make improvements. At the instigation of the Kenwood-Oakland Community Organization (KOCO), the landlord met once with their representative, and with the mothers' tenant group as a whole, made abundant promises, and then refused to meet with them again. A setback was felt by the women when the old field representative was transferred to another office. The new field representative was initially seen by them as very much less responsive to their needs, and not until this man attended a mothers' group meeting did he become sufficiently motivated to actively and forcefully seek improvements on their behalf. It is interesting to note that the first DUR representative had been white and the new representative is Negro, and the women's initial response to the new worker was to transfer to him the same feelings about "educated Negroes" that they have demonstrated toward some punitive public assistance workers, toward their precinct captain, etc; i.e., that these men depreciated them and were less tolerant of their unmarried, ADC status than a white person would be. The social workers have seen these perceptions as fairly accurate, and it should be mentioned that the women do not feel this way about a Negro minister who works with them in KOCO and who does treat them much more as his equal than do some of the other people in authority with whom they have contact.

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An important step was taken by the group early in the winter when they expressed interest in forming a block club. A non-Headstart mother, who has a child attending Ancona, volunteered to help start the club, and through her efforts contacts were established between the group and the KOCO, a neighborhood and community self-help organization. Membership in this organization consists of a number of small local groups and block clubs ("patches") in the community who, like our group, raise funds for KOCO's support and send representatives to larger meetings. The members of our group have been the leaders of, and a cohesive force in, the thirty-member block club. KOCO, in turn, has given continuing help in solving housing and welfare problems. The two social workers have attended the block club meetings following the group's request that they act in an advisory capacity.

The relationship with KOCO has meant a great deal to the group. Although initially the block club was formed with the idea of improving the one block on which the members live, their outlook has now broadened to include some desire to participate with the larger community and, in a moderate way, the cause of civil rights which KOCO espouses. The lives of several of the women have been particularly expanded through association with KOCO. A number of them regularly attend meetings with representatives of other patch groups, who are members of the larger Hyde Park-Kenwood-Oakland community with whom they would otherwise have little opportunity to come in contact. The most involved is the president of the block club, a regular school meeting attender, who has been the liason between KOCO, the block club, and the mothers' group. It is this woman who does much of the initiating of group ideas and who is the innovator of new projects for the group in addition to regularly attending at least two functions a week sponsored by KOCO, an involvement which she has found most gratifying.

The block club still has as its central unsolved problem the integration of the mothers' group and some other tenants of their building with the tenants of neighboring buildings who are their fellow block club members. These other women are primarily low income Negro women who are not receiving public assistance. There exists a subtle distinction in the minds of these women between themselves and public assistance recipients which is keenly felt by our mothers; i.e., the other women refer to how hard they work all day at their jobs (when asked to contribute time to block club projects), they emphasize that our mothers have more free time than they do, etc.

As outlined in the summer program report, one of the intended purposes of the mothers' group had been that of forming a group which would continue to function when the children left Ancona and began to attend public school. When their children first began public school in the fall of 1965, most of the mothers did attend PTA and work project meetings, but their interest and attendance decreased when the public school principal diminished his efforts to involve them.

The group has not moved freely in contacts with the non-Headstart mothers in the Ancona School. The social workers and project leaders attempted to involve the Headstart mothers with other mothers whose children were in the same classes. Projects related to classroom needs were suggested as a possible mutual meeting ground. The non-Headstart mothers sent invitations to the Headstart mothers to come to meetings at their homes but the Headstart mothers continually failed to attend for a number of reasons which seem to have had a basis in reality but which appeared to indicate an underlying problem in mixing with the middle class mothers. It soon became apparent that the invitations and the home meetings represented an artificial and contrived situation for both groups to which the Headstart mothers responded by failure to attend. The situation which finally elicited their attendance and participation was a request by the school to all parents to meet a real need: planning and working at a school fair. Headstart mothers now worked side by side with non-Headstart parents in planning and in carrying out assignments for the fair; together they enthusiastically attended a post-fair party for all the workers. All of this took place in the school or on the school grounds immediately adjacent to the building in which most of the mothers lived.

One of the other originally stated purposes of the group had been that of working on individual problems in the group setting. We have found that at the times when the reality living and housing problems have been at a more manageable level, then the mothers have had more energy available and have felt freer to look at, and share with the group, their personal problems. The women have been able to discuss problems in their own childhood and family situations and have shown some insight in relating these problems to current problems with their own children. Another productive area of group discussion has been the working through of negative feelings toward figures of authority such as caseworkers, landlords and medical clinic personnel. They have expressed their own feelings about the attitudes of the general public toward ADC recipients, and as they have become more involved in the group, in the school, and in the community, the women have begun to feel less depreciated individually.

The group members have demonstrated increasing self-reliance and initiative. Attendance at group meetings is voluntary and a child's eligibility for attendance at school is not contingent on his mother's attendance. We mention this because it has been called to our attention that this connection does exist in some Headstart programs. We feel strongly that in order forour group to cope effectively with personal and community problems, independent decision making is necessary. Since most of the women's previous contacts with figures of authority had been either punitive or paternalistic, the socialworkers believed that there was validity to this approach, and our experience has borne this out.

Our belief in encouraging the women to proceed autonomously and at their own rate of readiness has meant involvement in areas of their own choosing which have not necessarily been ours. As they feel less depreciated by others and develop an awareness of their own effectiveness they seem to be increasingly comfortable with new situations and new people. Hopefully, in the coming year they will be able to move into greater involvement with the school, the rest of the parent population, and the larger community.

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II. Descriptions of the Classrooms

Sources of the Data

Our descriptions of the three classrooms are composite pictures obtained from a variety of sources.

The *description of the children* for each classroom is based upon application forms filled out by our recruiters upon initial contact with the children's parents, initial test results, and incidental information about the homes and families obtained throughout the summer in our continuing contacts with the parents.

The *teachers' goals* were derived from direct statements of purpose, attitudes toward specific types of behavior in the children, and comments upon class progress, in our weekly staff meeting and in tape-recorded conversations with a research assistant. The recorded conversations, which lasted from two to four hours for each class, covered a variety of issues in passing, but focused on discussion of test results and of classroom behavior for each of the children included in the research. In classes 1 and 2, the assistant teacher as well as the teacher participated in the conversation. Class 3 had no assistant teacher. Teachers' goals were also derived from reports or logs written by the teachers during the summer.

The *classroom descriptions* are based almost exclusively upon two full days' observation in each classroom during the sixth and seventh weeks of school. Each of two observers spent one day in each class. During these observation, they focused upon the teacher and her assistant

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teacher, observing the teacher for 15-20 minutes, and then the assistant for a similar period, then returning to the teacher, and so on. They took detailed notes during their observations, noting the teacher's activities, her social and instructional interactions with the children, and the general classroom context. These notes were organized into a report based on the outline included in the Appendix ("Categories for Describing Classroom Observations").

The three major areas we chose for this outline were suggested by categories used by Philip Jackson (1965) to code teacher-pupil interactions in elementary school classrooms. Our categories of order, structure, and instructional and emotional-social activities bear a rough correspondence to Jackson's categories of control, management, and instructional interactions. They differ from Jackson's in that we included in them descriptions of the classroom as a whole, as well as individual teacher acts. A second source of the categories used in this outline was the classrooms themselves. We were already somewhat familiar with the classrooms at the time these observations were made, and had formed some opinions of relevent dimensions along which to compare them. Finally, an attempt at balance and completeness guided our choice of sub-categories. We used these categories loosely, and simply to suggest to the observers the aspects of teacher and child behavior that should be considered. In the following descriptions of the classrooms, we will not present the reports with their fairly exhaustive categorizations of aspects of classroom behavior. Instead, we will select from the reports those elements which can best provide an integrated picture of each classroom. We include here the outline we used simply to indicate the range of individual and group behavior categories that we considered.

We have combined the descriptions of the two observers here, and also expanded them slightly, where this is indicated, on the basis of our general impressions of the classrooms obtained in frequent, brief contact throughout the eight weeks of school.

The listing of activities in the classroom was not systematically obtained, and so should be considered suggestive only. It was culled from notes taken during classroom observations and observations of peer interactions, and from teachers' notes and comments upon the children and their activities.

Description of Classroom 1

Description of the children

This was our one unintegrated classroom: all 16 children were part of our lower income Negro group. These children lived in a neighborhood and would attend a public school which was virtually all Negro. All of the children lived within a block of one another, on a crowded street which included many run-down slum buildings as well as a few which were reasonably well-maintained. Though within three blocks of the Ancona School, they lived just across a busy street which tends to separate the racially integrated, primarily middle income community surrounding the school from a lower income community which is almost entirely Negro. Only this classroom group was drawn from the latter community; the children in the other two classes lived adjacent to the school, in the few buildings of poor families in the predominantly middle income area. In this group there was a wide range of home

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conditions. They included the most comfortably furnished and the most impoverished-looking homes we saw in our initial contacts with the families.

Table 12 lists the sex, age, I.Q. level, and family description data for the children in the three classrooms. This classroom had the lowest mean I.Q. of the three classrooms. Proportions of father-absent and father-present homes were roughly equal in the three classrooms.

All but two of the 16 children attended throughout the 8 weeks: one girl dropped out after the third week, and one boy moved during the final week.

Teaching Staff

The head teacher in this classroom had served as an assistant teacher in a nursery school for middle class children; she had also been one of the directors of a study center for lower income Negro elementary school children. The assistant teacher had worked with deprived children in England. Two teen-age girls served as aides; one of these had had some experience in working with children.

Teachers' Goals

Asked to describe her goals in one of the early teachers' meetings, the head teacher in this classroom said that her goals were emotional support and helping the children to enjoy school. In discussing during the research interview what kind of experience was important for these children she said that she felt it was important that the children be allowed to express themselves and and that their expressed feelings be met by understanding and acceptance. An example of this general

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attitude was seen in a discussion about handling aggressive behavior that occurred in one of the teachers' meetings. This teacher felt that the aggressive child needed to express and then to understand his feelings. It was the teacher's role to take him away from the group, encourage him to talk about his feelings in order to understand them, and then help him to find other ways of dealing with situations in which he tended to act aggressively toward others.

In the research interview the assistant teacher offered a rationale for the way in which the class was conducted which stressed freedom of expression. She did not refer to expression of emotion *per se*, as the head teacher did, but rather to creative expression. She felt that it was important to allow the children the freedom to play out the things that were troubling them, in the hope that their working things out through play and creative activities would enable them to handle the situations they would meet in public school. Implicitly in this statement and explicitly in a statement by the head teacher in a teachers' meeting discussion, there was no intention to prepare the children for the public school social order by giving them directly analogous experience; the head teacher felt that the children would recognize that public school was a different place and would learn its expectations. Both teachers agreed during the interview that during these eight weeks they did not want to dilute the experiences of freedom of expression and acceptance which they felt the children needed, and which was therefore the best preparation for meeting public school.

Description of the Class

Classroom order:

There was much activity and movement in this classroom, and the noise level was high. The teachers tended not to spend much time in controlling the children, with the result that behavior which was aggressive (e.g., hitting another child) or harmful to equipment (e.g., stirring a puddle of water with toy brooms) very frequently went unchecked or reached some intensity before it was checked. A frequent occurrence was a child complaining to a teacher that another child was bothering him.

Methods of control were diverse: they included setting down a prohibition which was then explained, diverting the child's attention, attempting to engage the child in another activity, taking the child out of the classroom and talking with him, or general admonitions to the group. A method which was almost completely absent was setting down a rule for which no explanation was made. When this method was used, it tended to be used in controlling the group rather than an individual. In general, control was quite gently administered; diverting a child's attention was the most frequent method used, and the children were almost never reprimanded. Attempts at control were sometimes ineffective, due to a teacher's only making a gesture at control, and not really following through with what would be necessary to gain control. For example, one teacher attempted to control a group of boys who were bothering another boy by directing them toward another activity group. However she did not stay with them and really launch the new activity, so the boys wandered away immediately.

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Rules seemed to be announced only in conjunction with individual acts of misbehavior, and seldom generalized. The only rule which was consistently (though not always strongly) upheld was: don't hit or in other ways bother another child. The consistency of this rule seemed derived from the fact that it dealt with an area of concern to the children, and they would therefore call the teachers' attention to infractions.

The level of control expected differed somewhat between the two teachers: the assistant teacher tended to place more restrictions on the children's behavior, and to follow through when she asked a child to do something; the head teacher restricted the children less and sometimes did not follow through where she did restrict them.

Classroom structure:

Typically, the teachers in this classroom brought the children together as a group twice during the morning: once, soon after the morning began, for such activities as songs, games involving learning colors, numbers, and names of objects, and other simple, more motoric games; the second activity of the entire group, late in the morning, was snack time. Each day there was also one special crafts activity (one of the days we observed, making ashtrays), and often another, more familiar activity (such as painting or working with clay) which was not specially planned. It was only rarely that the entire group was engaged in a given activity. At times the structure encouraged division into smaller groups: each teacher might be directing a different activity, and usually one of the aides remained in one section of the room, helping children with puzzles and the several Montessori materials which were available. Even when

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the teachers were focusing upon a single activity for the entire group, there were always a few children engaged in individual activities on the fringes of the group--they were left free not to join the group, if they preferred not to. Thus the classroom structure was quite fluid, and children moved in and out of group and individual activities as they wished. The toys in the room (dolls, balls, toy dishes, blocks, etc.) were always available to them if they did not want to engage in group activities. The group activities (especially the crafts) did draw the children's interest, however, and all seemed to participate in them at some point during the time in which they were available.

Both teachers were central figures in this classroom, but much social interaction took place among the children which was not directed toward the teachers. Because the children were able to choose among activities or to choose their own activities, a child rather than a teacher was able to assume leadership in an activity. In one group of three boys, for example, one of the three often assumed such leadership, and led the other two into new activities. More typically, however, the children organized themselves around interesting activities rather than around one another, and social interactions were fleeting.

Teachers' instructional and emotional-social behavior

Prolonged teacher attention seemed to focus primarily on individual children, usually the active, aggressive ones or those who needed to be directed into activities. Both teachers showed great consideration of the children's wishes, problems, and individuality, and physical and verbal expressions of affection were frequent. (We learned that early in the summer the teachers had each been assigned half the children as

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their special objects of attention.) Individual problems and individual instruction were concentratedly and warmly dealt with, but as a result of this concentration upon individuals, group activities and group order fell apart. For example, during one of our observations the head teacher spent a period of time in a variety of group activities. In this period she shifted the activity several times, never really getting one launched, stopping frequently to focus upon an individual. Eventually, most of the children had left the group to join another activity or were wandering about the room.

The children were rarely held responsible for their behavior: they were not expected to conform to specific rules of social behavior or of classroom procedure (hitting another child was prohibited, but minor infractions of this rule were often ignored, and major infractions were not dealt with as if a rule had been violated); they were not expected to clean up after activities or care for equipment; and they were not encouraged in self-care (such as dressing themselves). They were encouraged, however, to initiate their own activities. Few activities were prohibited by a general rule, and there was almost complete freedom to move about and to shift activities. As a consequence, the children did choose, begin, and end activities at will. The activities they designed themselves (with some notable exceptions) tended to be less complex and less prolonged than teacher-directed activities.

Self-expression was consistently encouraged in this class, by the teachers' warm interest in the children and their own relatively free expression of emotions to the children, by the lack of limit-setting, and by the lack of ritual. As a result the children rarely seemed to

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hold themselves back from expressing some idea or emotion. Anger at another child or at a teacher was expressed openly; the teachers sought and received the children's frank opinions; humorous teasing and sarcasm toward a teacher were seen.

Both teachers spoke frequently, and on a wide variety of topics--mostly to individual children. They spoke in short, simple sentences to which the children generally responded with understanding, by words or actions. The teachers did not speak at length to a child, but tried to encourage him to respond, often by directing simple questions to him. Thus the children were led to comment on their activities, to express their feelings, to answer questions of fact, and to speak before the group. (Some examples of these exchanges between teacher and child: (1) E. has just drawn a picture, and the teacher asks him "E., is it anything special?" E. replies "A big old giant." The teacher repeats this, with emphasis, as she writes it on the picture. (2) R. is being pushed in the block carrier by another child. A teacher passes, says "Where are you going, R.?" R. replies "Church." (3) While the children are seated before her in a circle, one of the teachers asks questions of each of them, such as "What is different about the weather today?" and "How many eyebrows do you have?" (4) R. is making an ashtray of clay. A teacher says to him "Your mother will like that, won't she? Does she smoke?" No answer. "R., does your mother smoke cigarettes?" R. replies "Yes." Teacher says "Does she? She can put the ash in there." R. asks "Real cigarettes?" Teacher answers "Yes, real cigaretts.")

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Eliciting ideas from the children met with varied measures of success, depending upon the complexity of the idea required, and the familiarity of the topic.

Because of this emphasis upon eliciting the children's own ideas, the teachers did not often give information or structure activities for the children. They did emphasize certain simple concepts, such as those described below (see Nature of Activities), and when they did structure problems for the children, they were both fairly successful: they gave simple directions, sometimes coupled with demonstration, and always encouraged the child to act. (Examples of problem structuring by the teachers: (1) A teacher shows E. how to turn up the edges of a clay ashtray, by demonstration and simple, directing words: "Dra-aw it up. Dra-aw it up." She lets him work at it a while, then sees that he is having trouble, and returns to demonstrate again. (2) A teacher is asking two children questions about a book she is reading: "Can you count three bees on a page?" The children lean over to look and count, and the teacher clarifies: "This is a page and this is a page.")

Nature of the Activities in the Classroom

Teacher-directed activities. A number of concepts were emphasized throughout the course of the eight weeks, mostly through group games of finding or naming things, but often through questions to individual children in the context of other activities. The concepts included identifying geometric figures (circle and triangle were mentioned), names of objects, names of colors, counting, learning one another's names, sounds of different animals. Often there were references to what was seen on

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the weekly trips. Throughout most of the eight weeks, the teachers brought fruit for the children to examine and eat each morning, and talked about the characteristics of the different fruits.

Each day a special crafts activity was introduced by one of the teachers. These included making ashtrays of clay, pasting cloth on human figures, Q-tip painting, pasting paper collages, potato prints, and leaf rubbings. Coloring, painting, and drawing on the blackboard were frequent activities.

A variety of games was used. In this classroom as in the others, Lotto was used as a small group game to develop vocabulary, and was very popular. Simple group games included Jack-in-the-Box, Doggie, Doggie, Where's your bone?, throwing beanbags in a pail, marching and dancing to music.

The teachers found that reading a story to the entire group was not successful. A few stories were told by the teachers, with actions, and these were well-received. Occasionally a teacher would read to one or two children. There was extensive story-telling by the children, with the teachers writing the stories down for them, and the children providing illustrations.

Songs were always enjoyed, and were generally well-handled. They often consisted of a number of verses, with references to specific children in each verse. The songs used by the teachers tended to differ somewhat from standard nursery school songs, in style if not in content: they were often louder, more active, and less genteel than is usually the case. They impressed us as the sort of songs that the boys might find especially appealing.

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One of the aides, beginning about half-way through the summer, directed the children's play with puzzles and with some of the Montessori activities, including stringing beads, sorting beans of different sizes and shapes, placing a series of wooden cylinders of increasing size in the correct holes in a block of wood, and building a tower of cubes of decreasing size. These were recurrent activities for most of the children.

A few individual caretaking tasks were introduced by the teachers, including watering plants, watering and feeding pet mice, and helping the teacher to clean the room, upon individual request.

Unsupervised activities. A doll corner was often a center for activity of one or two children, occasionally with observers and commentators. Toy soldiers and toy furniture were also available for play, though we did not see them used. Many of the children enjoyed washing dishes and mopping the floor. Other toys which were extensively used included blocks, toy cars, and a peg-pounding board.

We saw simple, fleeting acts of dramatic play, as well as a few extended dramatizations, the latter initiated and directed by one child who would then draw others into the play. Motor play, which was prominent, included running, climbing, playing with a ball, pushing one another in a cart, punching a Yogi bear punching doll. Books were available for the children to look at, though we did not see them used by children without a teacher's help. A full-length mirror and photographs of the children were popular initially, and were occasionally returned to later.

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Description of Classroom 2

Description of the Children

This classroom had the smallest number of children of the three classrooms. It was an integrated classroom: 7 of the children were in our lower income Negro group; 4 of the children were middle income white; and 1 child was middle income Negro. All children remained in the class for the entire eight weeks, except for the middle income Negro girl, who was enrolled for only the first four weeks, and two children who left after the seventh week.

The lower income Negro children lived adjacent to the Ancona School in a group of apartment buildings which house some of the few poor families living in this predominately middle class, racially integrated community. The public school they would attend drew upon this community, and was therefore integrated for both race and income level. The buildings in which these children lived were in disrepair, but the apartments themselves were often well-kept, though sparsely furnished. In the immediate area of the buildings, there was much space for outdoor play.

The middle income children in this classroom had all previously attended the Ancona School, in a Montessori classroom.

Table II-1 lists the sex, age, I. Q. and family description data for the three classrooms. The I.Q. level of the lower income children was mid-way between that in the other two classes. As in the case of the other integrated classroom, the middle income children whom we tested had a higher I.Q. level than the lower income group with little overlap in the distributions of scores. In the lower income group, the proportions of father-absent and father-present homes were roughly equal to those in the other two classes.

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In the research interview with the two teachers in this classroom, one of the teachers mentioned that she found the entire group an especially shy one, that didn't begin to feel comfortable until about the third week of school. The lower income Negro children were less inhibited than the middle income white children, and it was the former who made the first overtures of friendship in the group.

Teaching Staff

There were two teachers and one teaching aide. The head teacher was a public school teacher who taught a third-grade class in a predominately lower-income Negro school. Her assistant teacher was a nursery school teacher who had taught middle class children. The teaching aide was a teenage girl who had had no previous experience in working with children.

Teachers' Goals

The major goal of the head teacher in this classroom was the preparation of the children for public school. In the research interview, she stated that she had spoken to some kindergarten teachers prior to the beginning of the summer, to determine what the children should have when they enter kindergarten, and that she used this as a rough guide in planning. A written description of her goals indicated that she conceived of preparation for school as a multi-faceted endeavor which included broadening the child's interests, circle of friends and feeling of confidence in himself. Her goals, as she listed them were "To prepare children for public school. To give each child a feeling of worth and pride about himself. To increase socialization and verbalization. To teach the child

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to think and to do for himself. To prepare children for being away from home." In a discussion of goals at an early teacher's meeting, she had focused particularly upon verbal learning: helping the children to learn about the things around them and promoting verbalization in general and the use of sentences in particular.

In accordance with these goals, some activities were planned which were similar in nature to activities the children would find in a kindergarten class; in particular the teacher mentioned in her written report group activities which included conversation, songs and stories, and which were designed to teach the children to listen to others and to speak before the group, as well as to give them the feeling that their own ideas were important. Another reflection of the focus upon preparation for the kindergarten experience was the head teacher's attempt, described in a teachers' meeting late in the session, to begin to wean the children away from all the individual attention the teachers had given them initially, in preparation for the more impersonal atmosphere of the public school.

Description of the Class

Classroom order:

The general tone in this class was relaxed and unpressured. There were limits, but within these the children functioned freely. For example, on returning from a walk to a nearby park, the children were allowed to straggle down the street, walking along a raised curb stone, but when several children wanted to run ahead, they asked the teacher for permission and assured her they would stop at the corner.

Though much of the teachers' activity was related to control, it was not obtrusive in this classroom. For the most part it was firmly but gently administered, with no trace of anger behind it. Both teachers tended to give a firm, clear statement of rules; one of the teachers also appended an explanation each time she prohibited some behavior. Once a rule was stated or a request was made, compliance was expected, but the teacher was usually willing to wait for that compliance, and to repeat the rule or request if necessary. (For example, one of the teachers was alone in the room with M., who began to turn the light on and off repeatedly. The teacher said "M., I'm not finished here so leave the lights on." M. continued, and the teacher repeated his name several times, increasingly loudly as if he hadn't heard her. Finally M. stopped and the teacher said "Thank you.")

Control of the group was vested primarily in the head teacher. It was generally she who gave the few necessary directives to the entire group, and it was she who defined the limits of the permissible. These outer limits were defined by a definite change in tone which suggested to the children that immediate compliance was expected. This tone was not used frequently, and was almost exclusively used in situations where the children's actions seemed to threaten their physical safety: e.g., running out to the street to see a machine, climbing on a fence, hitting another child. Apart from this sharp, commanding tone, and the patient repetition mentioned above, control was also achieved by separation of a child from the group; when someone was being continually disruptive, the teacher would take him out of the room for a while. In addition,

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examples of desired behavior were praised by the teachers.

Three types of rules were identified, each type being associated with a different method of control. Rules relating to physical safety were given in the commanding tone mentioned above. Rules concerning taking care of property and consideration of other people's comfort were given in simple direct statements, sometimes with explanation. Immediate compliance was not demanded, and the teachers would repeat the directive and wait patiently for compliance. Rules concerning orderliness in the classroom were in effect at points of transition in activities; a general statement was made to the group, and then this was backed up by direction of individual children, fairly patiently moving them toward the necessary cleanup of materials and arranging for the next activity.

The order which was expected in this classroom seemed to be thoroughly understood by the children. First, they reacted appropriately to the changes in the head teacher's tone described above. Second, the generally good order which existed in the class with no evidence, at least at the time of observation, that the teachers had to work strenuously to achieve this order, indicated that the children did know what was expected and were willing to comply.

Classroom structure:

We observed in our occasional visits to the classroom, and the teacher described in a written report, a classroom routine that was fluid but consistent. Generally the first part of the morning was spent in individual and small group activities using materials which were available daily, such as dolls, trucks, puzzles, paints, sewing cards, etc. At this time the two teachers and occasionally the aide tended to be the center of small group activities which began and ended as a

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function of the interest of the children. There was much shifting among the groups, though the children did tend to remain with an activity for fairly long periods, and to find new activities when they had left others. This early period was occasionally used for activities designed for the entire group; we observed a day on which the entire group made and flew kites and one on which the group planted seeds. During these activities designed for the entire group, children who did not want to participate were allowed to pursue individual activities with the materials which were always available for play. In her written report, the teacher mentioned that the children also occasionally played outdoors during this period.

After this early long period of activity the children, directed by the teachers, cleaned up the room and put materials away, then gathered in a circle for songs, stories, or conversation. On the days on which we observed in this classroom, the only activity at this time was singing which was directed by the teacher. However, the head teacher's report mentions conversations about trips planned for the week or about things that children had brought from home to show the others. During the singing we observed, a few children were generally allowed to continue with other activities. Following the singing, all the children gathered on the circle for milk and crackers, a quiet time in which there was generally some conversation among the children. More small group activities or occasionally a story read by a teacher to the group followed milk and crackers; then the last period of the day was spent in play outdoors in a nearby park.

Thus, in this classroom, the children were typically in small, shifting groups formed on the basis of interest in an activity. Large groups were the next most typical formation, and included most or all of the class. In most cases even the large group was fluid. The teachers tended not to be strongly directing in this class, but their presence in or initiation of an activity seemed to entice a number of children into that activity. Among the children themselves, groups were formed on the basis of interest in an activity. There were discernible leaders among the children but no cliques.

Teachers' Instructional and Emotional-Social Behavior

Most of the teachers' attention was directed toward individual children, usually in brief interactions. The content of their interactions with the children included supervision, instruction, control, and general conversation, in roughly equal proportions. The head teacher tended to be pleasant and considerate, but not oriented toward the individual emotional needs of the children. For example, she would occasionally respond to comments which expressed rather personal concerns with answers which focused away from, rather than toward the emotional content of those concerns. (E.g., when one child said she didn't want to drink her milk the teacher simply said "It's good for you.") She did not tend to initiate conversation with the children, but they often directed conversation and expressions of physical affection toward her, and she met these with interest and enjoyment. The assistant teacher seemed more oriented toward individual emotional needs: although she also did not focus upon emotions in her conversations with the children, her actions

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seemed to take into account the children's more personal reactions. For example, it was this teacher who often tried to draw the more shy children into activities, and it was this teacher who evidenced understanding of the needs of one quite disturbed child. The combined result of these two teachers in the classroom was a pleasant, relaxed atmosphere where extremes of emotion were not often seen, and where the focus was upon the activities of the classroom. Though most of the children in this class spoke freely to the teachers, they did not frequently challenge the teachers' authority or become teasing or boisterous. Thus it seemed that the freedom of expression we saw occurred only within limits set by the authority of the head teacher and her pleasant, easygoing, but relatively impersonal manner of relating to the children.

In this classroom the teachers expected the children to clean up after themselves and to put materials away; each child was theoretically responsible for the things he had used, and the teachers set aside a period of each day when they expected the children to exercise this responsibility. Initiative in choosing activities and in social interaction was rendered possible by the general freedom of the classroom structure and by the responsiveness of the teachers. Though the teachers encouraged the children to engage in some "constructive" activity by invitation or suggestion, they did not push the children into activities if they did not want to join. Most of the children did in fact initiate their own activities, and their participation in teacher-directed activities seemed based on interest so that they felt free to leave when their interest waned.

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The head teacher spoke fairly frequently to individual children, in short, simple declarative sentences. Instructions and orders tended to form a large part of the content of her speech, though brief responses to questions were also present. When she spoke to the children, their reactions--verbal or motor--tended to be almost immediate, suggesting that the children found her communications easy to understand. (E.g., when a child began to enter another classroom, she said simply "Don't go in there, J." J. asked "Why not?" She replied "There's no one in there." J. immediately came out of the room.) The assistant teacher also spoke fairly frequently, but her communications usually included long explanations, and led more often to hesitation, confusion, deliberation, and delay of response. (E.g., Two girls were throwing sand into the basement entrance-way. The teacher said to them "Girls, you can dig the sand but don't throw it down there, because it has to be swept out." The girls looked at her hesitantly, then stopped.) Though the children apparently had some difficulty in understanding this teacher, they generally responded appropriately to her, after a delay. Her mode of communication tended to inhibit verbal response by the children, but it is possible that it provided them with practice in understanding of speech.

The children were never prohibited from speaking in this classroom, and the teachers responded with interest to the children who spoke to them. For the most part, there were no directed attempts by the teachers to get the children to speak, though we did observe a few occasions when the head teacher directed questions to the group in the context of a group activity. (For example, she elicited the children's

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ideas about the growth of plants in the seed planting activity we observed one day.)

We did not observe a great deal of directed verbal instruction in this class, but each teacher presented some items of simple information as they came up in the context of activities and observations. (For example, when the children were gathered around, looking at something on the sidewalk, one teacher approached and told them it was a caterpillar. On another occasion, a teacher told the children who were singing a song that "spine" meant their backbone, and suggested that they feel it.) In each case the information was presented simply and clearly, and the children seemed to register what was said, or at least to focus upon what was referred to. Instruction in motor activities such as drawing, cutting, and stapling, was also presented in the context of an activity.

The teachers in this classroom were often engaged in structuring small group activities and games. The one activity which we observed in detail, that of making kites, was structured in a very satisfactory manner. It was broken down into manageable steps, each involving both decision and motor activity for the children. When each child finished his kite he was able to take it outdoors and fly it.

Nature of the Activities in the Classroom

There was much overlap in this classroom between supervised and unsupervised activities, since the teachers typically spent the early part of the day in small group activities using materials which were available also for unsupervised play. For example, one teacher made a group game of sorting beads which were also available for individual use. And again, a child might work on a puzzle with a teacher's help or by himself.

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A number of the Montessori materials were available in this classroom, including a tower of cubes of graduated size, a "staircase" of wooden blocks of graduated length, a graduated series of cylinders set in a wooden block, geometric figures for tracing, and bead sorting. Classroom materials also included more standard nursery school equipment: trucks and cars, dolls, toy dishes, puzzles, a Leggo set, a pegboard, beads for stringing, sewing cards, and blocks. All of these materials were used daily by the children. Painting, under a teacher's supervision, and coloring were frequent activities. Cutting and pasting paper were seen. Books were available, and the teachers were seen reading from them to small groups of children. Lotto was a popular game in this classroom as in the other two.

Activities for the total group which used materials not otherwise available were infrequent in this class. We have mentioned making paper kites and planting seeds, the two activities of this nature which we observed.

The head teacher planned a few activities designed to acquaint the children with their less immediate surroundings, including a walk to a nearby demolition site and a visit to a number of different kinds of nearby stores. She sometimes addressed comments and questions to the group about things observed on their walks to and from the park, and crossing streets provided the occasion for learning safety rules.

No particular concepts were emphasized in this classroom, though both teachers frequently named or explained things for the children. In the research interview, the teachers mentioned some attempts to teach the children colors and said they hoped to teach the children to read their names.

12801

Description of Classroom 3

Description of the Children

In this classroom, there was a shift in population at the middle of the session. The middle income children, all of whom attended the Ancona School during the school year, were enrolled for one or both of two four-week sessions. All of the lower-income children were enrolled for the entire eight weeks. Thus, during the first four weeks, the class consisted of 7 lower income Negro children, 5 middle income white children, and 5 middle income Negro children. During the second four weeks, there were 7 middle income children (6 white, 1 Negro) and 7 lower income Negro children.

The lower income Negro children lived adjacent to the Ancona School in a group of apartment buildings which house some of the few poor families living in this predominately middle class, racially integrated community. The public school they would attend drew upon this community, and was therefore integrated for both race and income level. The buildings in which these children lived were in disrepair, but the apartments themselves were, with one exception, well-kept. In the immediate area of the buildings there was much space for outdoor play.

The middle income children had all previously attended the Ancona School, in a Montessori classroom.

Table III-2 lists the sex, age, I.Q. level, and family description data for the three classrooms. The lower income children in this class had the highest mean I.Q. of the three classrooms. However, their I.Q. level was lower than that of the three middle income children we tested in this class, with no overlap in the two distributions. In the lower

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income group, proportions of father-absent and father-present homes were roughly equal to those in the other two classrooms.

Teaching Staff

This classroom had one teacher and three assistants. The teacher was a trained Montessori teacher, who had received her training in the Ancona School during the previous year. Prior to that time, she had taught kindergarten and nursery classes in private schools. The assistants included one woman who had previously worked with children in Sunday Schools, and two teen-age girls, who had no previous experience in working with children.

Teachers' Goals

This was our one Montessori class. The teacher supplemented the Montessori materials with other preschool activities, but the structure of the classroom was Montessorian. In the research interview and in other conversations with the research assistant, the teacher indicated that her purpose was to prepare the children for public school, working from within the Montessori approach. Consistent with this approach, we felt, was the teacher's focus in the interview upon certain broad areas of development which she hoped to further, and her detailing of specific elements of classroom procedure and classroom materials which were intended to support this development. Of the three head teachers, it was this teacher who had the most specific rationale for her classroom activities.

First, she emphasized the goal of promoting the child's individual learning, according to his own interests and level of attainment, choosing

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from the activities available to him with the teacher as observer and guide. Second was the maintenance of an order in the classroom, designed to build the child's confidence in his ability to function there. In addition, she felt that following instructions given by the teacher in presenting new materials to the children would provide good practice for the demands of public school. She described the Montessori materials which she was using in terms of three broad categories: (1) the practical life activities were intended to develop competence in self-care and self-direction; (2) the sensorial materials were intended to develop sensorial discrimination; (3) concepts of proportion and number were to be developed by other materials. In a discussion of goals at a teacher's meeting, she mentioned that she planned to modify the Montessori individual learning approach by initiating some group activities in recognition of the fact that the children would participate in group activities in public school. She mentioned another addition to the Montessori approach in the research interview: instead of waiting until late in the program to introduce language concepts for the Montessori materials, she introduced them early, in recognition of the fact that this was a shortened program, and that the public school experience to come would lean heavily upon language. Furthermore, she introduced a few extra activities designed specifically to promote verbalization.

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Description of the Class

Classroom order:

In this classroom the prevailing atmosphere was one of activity and industry. There was an abundance of rules, and an established routine for most activities. Rules designed to maintain general classroom order included avoiding actions which would bother another child, replacing equipment immediately after the child was finished using it, taking turns with materials which couldn't be duplicated, maintaining neatness and cleanliness in the classroom, handling equipment quietly and carefully. Rules relating to the children's work habits included finding some activity to engage in at all times and finishing activities once they were begun. Specific rules governed the use of much of the equipment: in particular, we noted that cleaning materials had designated functions, and that the Montessori materials were to be used only in certain ways. All the teachers consistently enforced and demonstrated the rules. Statements about rules as well as leading a child through the prescribed actions were frequent occurrences.

In general, the children seemed to accept the rules and to try to conform to them. They did not seem to be unduly inhibited by the rules; rather, they performed their responsibilities as they knew them or were reminded of them, but continued to maintain active interest in their activities and in one another. In some cases the children seemed to have learned the rules, especially those surrounding daily routines, and those general rules which concerned work habits; the more specific rules about handling equipment required frequent reminder.

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The teachers enforced rules by reminders or admonitions, which frequently contained only such appeals as "That's not what we do," but occasionally included reasons. (Only the head teacher was observed to give reasons for her directions; the assistant we observed simply stated the rule in a firm tone.) We saw no occasions when it was necessary for the teachers to speak to a child about an action such as hitting another child, though we did note one occasion when a teacher stopped an interaction which it seemed might end in conflict. The head teacher had mentioned in the research interview one occasion when a child hit another and she required an apology of the child who had done the hitting.

Classroom structure:

In this classroom, the first and longest portion of the morning was spent in individual or small group activities using materials which were available daily for the children's use. For the most part the children chose their own activities, though the teachers might suggest things for them to do. The teachers often started children on activities and frequently called their attention to things they should do, but we saw no instances of continual teacher direction of an activity. Typically the children engaged in individual activities, though there was much parallel play. Thus grouping with others tended to result from sitting at the same table and/or engaging in conversation. Despite this dominant tendency to individual play, there was some group play (for example, we saw three boys playing Lotto together, and two girls washing dishes). There tended to be less shifting of groups in this classroom than in the other two: activities were of fairly long duration, and children tended to return to their own chosen places at tables for their activities.

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Milk and crackers followed this early long period of activity. There was no clearly demarcated clean-up ~~time~~; the teachers simply spent about 10 minutes moving among the children, getting them to finish the activities they were engaged in and to sit down at their tables. Thus the transition was generally handled smoothly. In this classroom there was a certain amount of ritual surrounding the eating of milk and crackers: the teacher chose from volunteers several children to pass napkins and crackers to the children, and another child to call their names for receiving milk. The children sat at their tables, and were expected to remain there quietly until their names were called. The teachers supervised this activity closely.

On one occasion we saw one of the assistants read a story to the entire class after this early period. More typically, the children went directly outdoors to play for the remainder of the morning, as in the other two classrooms.

In this classroom the head teacher was a strong social center. Whenever she remained at her desk, she was frequently approached by the children for conversation or for help in an activity. There was, however, a social structure which existed quite apart from the teacher: in a number of cases social interaction seemed based upon individual friendships, and was sustained in common activities. In particular, three middle income white children formed a small friendship group which frequently engaged in conversation across activities, and three lower income Negro boys were frequently seen to form group activities. These groups were more stable, and more clearly friendship groups, than those we saw in the other classrooms.

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Teachers' Instructional and Emotional-Social Behavior

In this classroom, as in the other two, the teachers' attention was directed primarily toward individual children. In the case of the head teacher, this attention most frequently took the form of instruction which was often quite extended; particularly when she was giving a lesson using the Montessori materials. Prolonged individual instruction was more frequent and more widely distributed in this classroom than in the other two. It seemed that the teacher's primary orientation was to instruction, and that other considerations were secondary. Even in the context of general conversation, instructional statements were frequent. (E.g., E. had been talking about bathing kittens. The teacher said, "It's not a good idea sometimes to give them a bath." E. asked "Why?" The teacher answered, "They clean themselves.") Characteristically this teacher was warmly supportive of the children and responsive to their bids for attention, though she did not encourage a dependent attitude or physical expressions of affection. (In a typical interaction, one girl, waiting in line to go outdoors, said, "Mrs. D., I'm ready." The teacher looked down and with a pleasant expression mouthed the words, "I know.") The aides also directed their attention toward individual children, but primarily for purposes of control or reminders of unfulfilled responsibilities. When an aide approached a child, it was typical for her not to comment upon what the child was doing, or to ask him about it, but rather to reinforce a rule about how it should be done. (E.g., one aide spoke to E. who was playing with a tea set. "No water over here. You're not supposed to bring water over here.")

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The aides did engage in some instruction as well, but this was less frequent. In contrast to this classroom behavior, the aides were more actively and warmly involved with the children's activities on the playground.

Personal responsibility was fostered in this classroom in a number of ways, the most important of which was the independent carrying on of activities. Beyond that, there was the stress on finishing tasks, putting away equipment, and keeping the room orderly, all of which the children were expected to do themselves. Reminders were often necessary, but the children did carry out these activities. In addition to this responsibility for individual activities, children volunteered for, or were assigned, jobs to help in carrying out routines, such as having milk and crackers.

The children were encouraged to choose their own activities, but they exercised initiative primarily at this point of initial choice of an activity, and not in the manner of carrying out their choice. Rather, the activities they chose were often to be carried out in a manner prescribed by the teachers. (E.g., M. was told that the subject of his painting was inappropriate for paints. K. was told to wipe the dishes with a cloth towel rather than a paper one. E. was told to wipe up some water she had spilled by using first a sponge and then a paper towel.)

Similarly, because the set of activities designed for the children was so clearly prescribed, the teachers tended not to encourage self-expression, or at least to set limits upon the manner in which it occurred. (For example, one child, who wanted very much to play with a kitten visiting in the classroom, was not allowed to do so by one of the assistants. The head teacher let her join some other children in play with the kitten, but

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asked her to move her chair around the table so that she could be seated while she did so.)

In this classroom, the teachers all spoke quite frequently, and almost always to individual children. Their speech tended to consist of short sentences, consciously adjusted to the children's level of understanding. Rarely did a child seem unable to understand what a teacher had said. (E.g., During milk and crackers, the teacher said to a child who was coming to her desk for milk: "You have to come around the other way. We'll have too much traffic." The child immediately turned and went around the other side of the desk.)

The head teacher was the only person who consistently encouraged the children to verbalize. She did this through conversations with children at her desk, and through the function she served of directing activities (so that the children frequently came to her with requests). Even the head teacher, however, tended to dominate the conversations she engaged in with the children, possibly as a function of a strong orientation to instruction of the children. (E.g., Three children were holding the kitten. The teacher asked them to bring it to her, took it and held it as she talked with them. "He was outside this morning. I brought him in and gave him some milk. See he's frightened. You pat him gently." One child said, "We have a cat." The teacher replied, "We have two," then went on to describe her cats.)

The children were asked to speak before the group in the process of carrying out routines: for example different children each day called the names of the other children to receive their milk during milk and crackers.

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More extended speech before the other children was not seen, since there were few activities for the entire group.

A few cases were observed of the teacher's attempt to provide situations for verbalization among the children. For example, one child was asked to instruct another in an activity and the Lotto game provided a setting for verbalization. Furthermore, conversation among the children was going on continually, and was rarely prohibited. The teachers asked the children not to speak only at the times when they were addressing the entire group, as, for example, when the head teacher was calling the children's names as they formed a line to go to the park.

Both giving information and structuring problems were quite successfully handled in this class. Items of information were given in the context of activities the children were interested in. (For example, when a group of children were playing with the kitten, the teacher spoke to them about how she had found it, and showed them how to handle it without frightening it. Later, she showed some books about kittens to a few of the children.) Problem-structuring was seen in the several lessons which were given with Montessori materials. In these lessons, verbalization was kept to a minimum, and was quite simple, and it closely paralleled the actions of the teachers in demonstrating to the children how to deal with the materials. (E.g. Demonstration of the use of thermic bottles for comparison of temperatures: H. was seated before the group of bottles, began to lift and shake them. The teacher told him he didn't need to shake--just feel them. "Take one and find one that's _just_ like it. Then give them to T. (another child) and she can test them. The teacher moved away. H. held up

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two bottles, addressed the teacher, "This the same?" The teacher took the bottles, said, "Is it? You try it, T. Are they?" T. took the bottles and felt them, said, "No." A moment later, H. held up two more bottles, said "This the same?" The teacher replied "What do you think, H."? She took the bottles, said "That's right." H. continued for a while without consulting the teacher.)

Nature of the Activities in the Classroom

There was a wide variety of materials in this classroom, most of which were designed for individual use. Montessori materials which involved the ordering of sensory dimensions included thermic bottles, sound cylinders, a block tower, cylinder blocks, and a textile box. Materials designed to teach number concepts included counting boxes, with spools to be counted into them, sandpaper numerals, and rods of graduated length. Practical life activities included watering plants, dusting, polishing and washing materials, and fastening frames for practice with various clothing fasteners. A doll corner included, among other things, dolls, cradles, baby bottles, and a tea set. Art work materials consisted of crayons, paints, colored paper for pasting designs. Materials promoting verbalization or leading toward reading and writing included picture Lotto, alphabet cards, tracing insets (simple geometric forms) and learning the names and characteristics of the forms traced, and writing on the blackboard. Additional miscellaneous activities were bead stringing, puzzles, bead sorting, and a hammering bench. In almost every case, the child was introduced to materials in a brief lesson given by the teacher or by watching other children who had already learned to use them. Not every child used all the materials.

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Rather, the teachers let the children make their own choices, occasionally introducing them to new materials.

Activities engaged in by the whole group were limited almost entirely to group singing and stories read by the teachers.

Comparison of the Three Summer Classrooms

Although our three classrooms differed from one another in many respects, there were a number of broad similarities between them. In each classroom the choice of activities was free, there was a large degree of freedom of movement, and the children were free to converse with one another most of the time. All of our teachers directed their attention toward individual children primarily and group activities secondarily, though the predominant nature of the attention given varied among the three classes. Activities seemed to be of an appropriate level of difficulty in all the classes. In all cases they included attractive manipulable and pictorial materials, toys for dramatic play, songs, stories and games, and verbal concepts introduced by the teachers. No classroom had a single, formal curriculum.

The differences which existed among the classrooms may best be seen in a brief, summary description of each. In Classroom I, the aims of the teachers were emotional support and encouragement of self-expression. The general tone in this classroom was active and uninhibited. There were few prohibitions or expectations for behavior, and those which did exist were inconsistently upheld. There was almost complete freedom of movement. There was no encouragement of responsibility in the children for their own actions and their own self-care. The focus of the teachers was on self-

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expression rather than instruction, on emotions rather than classroom activities. The daily classroom routine was quite variable. Instructional activities occurred in large groups more often here than in the other two classrooms, though the teachers' attention was otherwise directed mostly to individuals. The focal activities shifted each day rather than consisting of a standard set, though peripheral, individual activities used material available daily.

In Classroom 2, the aim of the teachers was preparation of the children for kindergarten. In this classroom the general tone was relaxed and unpressured. There were clearly defined rules and routines, which were simple and few in number. There were moderate expectations for responsibility in the children for their own actions and their own self-care. The teachers were oriented primarily toward classroom activities, though they did take account of the children's individual needs in directing these activities, and a balance was achieved between attention to individuals and orientation to activities. There was some instruction, but more teacher attention was directed to structuring of problems and games. Instructional activities occurred primarily in small, shifting groups. There was a standard set of materials, available for daily use, with occasional variation.

In Classroom 3, the aim of the teacher was preparation of the children for kindergarten through Montessori methods. The general tone of the class was active and industrious. There were many rules, touching all activities, and a fixed method for carrying out most activities. Classroom routine was fixed and clearly defined. This classroom made the

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greatest demands upon the children for responsibility for their own actions and their own self-care. The teacher and her assistants were oriented to tasks and instruction, with self-expression and attention to emotional needs secondary concerns. Instruction was almost exclusively given individually, and the activities of the children were mostly individual ones, though with a few small groups. There was a standard set of activities for the most part, but with introduction of new activities to individuals from time to time.

It can be seen that our three classrooms formed a rough continuum on a number of characteristics, converging to define a classroom style. Classroom 1 is at one end of this continuum, characterized by lack of structure, lack of restrictions and expectations for behavior, and a predominant interest in meeting the emotional needs and eliciting the uncensored attitudes and feelings of the children. Classroom 3 is at the other end, characterized by a strong structure, a number of restrictions and many expectations for behavior, and a predominant interest in teaching certain attitudes and habits of work and thought to the children. In each of these classrooms, the teachers focused their efforts upon the individual child. Classroom 2 falls between the other two. It is characterized by a moderate degree of structure, with some restrictions and expectations, and a balance struck between individual needs and classroom instruction. This median position also entails in this case an absence of the intensity felt in the other two classrooms, coupled with a less strong focus upon individuals.

Table II-1

Description of the Children in the Three Classrooms

	No. of Children						Description of Lower Income Families						
							Father Absent			Father Present			
Classroom Group	Boys	Girls	Age at Entrance	No. of Children Tested	Initial Mean IQ	Range of IQ	ADC	Mother Working	Means of Support Not Known	Father Working	Means of Support Not Known	Age of Mother	No. of Siblings
1 - Lower Income Negro	7	9	5-1	12	84.9	47-102	5	3	3	5	0	28.9	2.8
2 - Lower Income Negro	3	4	5-3	7	90.7	69-119	2		3	1	1	31.5	3.7
2 - Middle Income White and Negro	2	3	4-9	3	134.0	110-146							
3 - Lower Income Negro	3	4	5-0	7	95.7	82-102	3	1	1	1	1	29.9	3.6
3 - Middle Income Negro and White: 1st Four Weeks	3	7	4-9	3	115.0	110-122							
3 - Middle Income Negro and White: 2nd Four Weeks	2	5											

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Description of the Montessori Class of the Winter Program and Comparison with Classroom 3, the Summer Program Montessori Class

The Montessori classrooms in the summer and winter programs were taught by the same teacher. She has provided us with a report which discusses her aims and her methods in the year-long winter program, and compares them with those of the eight-week summer program.

First, a number of factors served to produce general changes in the conduct of the winter program:

(1) Through the efforts of the social workers, the children's mothers were more involved in the school program. They contributed to the classroom efforts, as do the other parents of the Ancona School, by helping to make materials used in the classroom. Thus they became more familiar with the Montessori method and materials, and were able to give more direct support to their children's learning.

(2) This teacher was overburdened with administrative chores during the summer program and therefore was prevented from giving her full time and effort to the children in her classroom. With these chores removed during the winter program, she was able to devote moretime to individual teaching.

(3) During the summer program, the teacher felt the pressure of limited time upon her attempts to expose the children to certain materials and to prepare them for a formal classroom experience within the eight-week period. In the winter class this time pressure was removed, and the group was able to approximate more closely the Montessori concept of children progressing at their own rates of speed, according to their own interests,

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needs and potential, unhampered by the prodding of a teacher. Individual rather than group learning was emphasized.

(4) The presence of other Montessori trained teachers, and in particular the new principal of the Ancona School, provided the opportunity for discussions concerning each child and for comparison of observations.

(5) There was more time before the winter program for extensive planning.

(6) The winter classroom was fully equipped with Montessori materials; this was not true during the summer, when materials had to be shared with other classrooms. Thus in the winter class the teacher was able to adhere more closely to the sequence of use of certain materials upon which the Montessori method is based.

Within the framework proved by these changed circumstances, the teacher moved toward a variety of aims with new techniques and materials which had not been a part of the summer program.

(1) *Sensorial discrimination* along visual, auditory, and tactual dimensions was enhanced through the use of a complete set of the Montessori sensorial materials.

(2) Increases in *attention span* were achieved through greater opportunity for the children to work alone in the classroom with the Montessori materials, which are designed for independent learning and self-correction.

(3) *Language development* was enhanced by the use of a variety of methods, some of which were additions to the Montessori materials.

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(a) Attention to sounds

i. The children were asked to close their eyes and then to listen for sounds, identify and classify them (near or far, loud or soft).

ii. The children listened to the rhythm of drum beats and were asked individually to reproduce them.

iii. Using the Montessori bells, the children were asked to identify loud and soft, high and low sounds.

(b) Concept formation and the stimulation of conversation

i. The children were presented with illustrations and asked to find certain objects, tell what they thought was happening in the picture and what the people were saying.

ii. A miniature farm complete with animals was combined with illustrations in books and with games to expand concepts and vocabulary. Children learned that cows, chickens, horses, pigs are called farm animals because they live on a farm. They learned the function of each animal in terms of its usefulness to people.

iii. Children were shown pictures of household furnishings and asked "In what room in the house would you expect to find this? What is it called? What is it used for?"

iv. Children were presented with geometric solids and asked "Which is found? Which can roll? Why? Which has corners? Which is flat? Can you think of other things that have the same shape?" This introduced them not only to the visual discrimination of shape but also added to vocabulary.

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(c) Phonics

i. Simple words of three-letter construction were used to teach beginning and ending sounds, with the beginning being the first letter (consonant) of the word and the ending the last two letters (vowel and consonant). The children were taught to look for the distinct characteristics of each word so that they could distinguish likenesses and differences.

ii. Children were given a series of pictures illustrating various beginning sounds and several cardboard letters. They were asked to place the proper picture under the correct letter. Sometimes children called pictures by another name and placed it under another letter. It was then pointed out to them that it might be used in either place depending upon the way it was understood and named.

During the summer program activities promoting language development were less structure than these; they included films, trips, and group discussions.

(4) Number symbols and concepts were taught by more extensive use of the Montessori materials that are designed for this purpose.

(a) Number symbols

i. Children used sandpaper numerals to feel the shape of the number symbol and were then blindfolded and asked to identify the numeral on thebasis of touch.

ii. Practice in writing symbols on the blackboard and on paper was done after much exercising with sandpaper numerals.

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(b) Number concepts

i. Children were asked to match bead chains graduated in number from one to five to the corresponding numerals. Pictured objects were also matched to numerals.

ii. Children counted using rods which are graduated in length and marked off into alternate red and blue units.

(5) More materials were available during the winter program for creative activities: crayons, pastel chalks, paint, clay, and paste were used.

(6) As in the summer program, dramatic play was encouraged in a fully equipped doll corner.

(7) Experiences with music were more extensive than during the summer: singing, listening to records, inviting musicians to play instruments for them, and making musical sounds themselves with the Montessori bells.

(8) Independence was encouraged, as it had been during the summer program, by allowing the children to select their own materials and make their own choices of activities, by expecting each child to be responsible for cleaning up and replacing equipment he had used, and by instruction in self-care, such as dressing, washing, blowing noses.

In summary, the major factors which differentiated the winter from the summer program included a wider range of materials, which were more carefully planned and graded, including materials for language learning which were developed by the teacher and which supplemented the Montessori materials; greater attention to individual instruction and independent learning; and less pressure to achieve much in a short period of time.

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III. Assessment of Change in Intellectual Performance and in Classroom Behavior

Methods

1. IQ Measure. A Stanford-Binet intelligence test was administered to each of 22 lower income Negro children during the second through fourth weeks of the summer session, and again during the second and third weeks of public school in the fall. The average interval between the two tests was 9 weeks. The 22 children in this group included 9 from Classroom 1, 6 from Classroom 2, and 7 from Classroom 3. Forms L and M of the Stanford-Binet were used; half of the children were tested with Form L first and Form M second; the other half were tested with the forms in the reverse order. Within each classroom group, we counterbalanced for sex of the child, examiner, and form of the test first administered.

The group of 10 three-and four-year-old children who entered the year-long winter program were also administered the Stanford-Binet Forms L and M, but on three occasions rather than two: once during the second through sixth weeks of school; then, an average of 15 weeks later; and finally near the end of the school year, an average of 18 weeks following the second testing. With this group as with the summer group, form of test was alternated, and sex of child, examiner, and form first administered were counterbalanced.

We used the Stanford-Binet in the research because it is a reliable omnibus measure of intellectual performance which might reflect many types of change, and because of its demonstrated relation to school performance.

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2. Ratings of Test Behavior. Following each administration of the Stanford-Binet, the examiner rated the child on a number of dimensions of test behavior, using the rating scale included in the Appendix ("Ratings of Behavior During Individual Intelligence Testing"). Thus we have ratings of behavior on each of the two intelligence tests foreach of the 22 children who served as our experimental group during the summer session; and on each of the three intelligence tests for the 10 children who attended in the winter. The dimensionsrated pertain broadly either to test behavior as such or ~~to~~ the social relationship with the examiner.

The behavior traits we rated are based upon those used with the Stanford-Binet Form L-M to evaluate the factors affecting test performance, with the additions that we included more scales defining social behavior in the tests, and that we included a scale for rating understandability of speech. Furthermore, each scale was defined by numerals and by qualitative descriptions at five points along the scale, and the end points of the scales did not necessarily conform to optimal vs. detrimental test behavior, as is the case in the L-M rating scales. The end points on our scales were usually defined as extremes of behavior. For example, the "self-confidence on tasks" rating scale ranges from "over-confident" to "distrusts own ability". Neither condition is optimal, but each is the alternative extreme of the other.

3. Goodenough-Harris Draw-a-Man Test. During the second and third weeks of the summer school, the teachers in each classroom asked each child to draw a picture of a man, in accordance with the instructions included in the Appendix ("Instructions to Teachers. Goodenough Draw-a-Man Test"). In Classrooms 1 and 2, this was done as a group project;

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in Classroom 3 it was done individually. A second drawing was obtained from each child five weeks later, during individual testing session in the seventh and eighth weeks of school. These drawings were scored according to Harris' (1963) revised scoring system for the Draw-a-Man Test. Drawings were not obtained from the children in the winter program at Ancona. The Goodenough-Harris test was used during the summer because it afforded another, quick measure of intellectual ability, as an alternative to the Stanford-Binet.

4. Length Conservation Test. During the second through fourth weeks of summer school and again during the seventh and eight weeks, a test of conservation of length was given to each child. The form and instructions used for this test are included in the Appendix ("Length Conservation--Headstart Research Form"). This test is similar in content to Piaget's tests of length conservation, but in contrast to Piaget's tests, it required little verbalization by the child. There are two parts to the test; each presents two stimuli (two sticks or two ring segments) which differ in length, then determines whether the child can retain his concept of which is longer when faced by a visual illusion which presents a perceptual situation contrary to such a judgment of conservation. The second (ring segment) portion of the test is given only if the child consistently conserved on the first (sticks) portion.

Scoring instructions for this test are included in the Appendix. On the first portion of the test, the childreceived one point each for the items (1) discriminates length correctly, (2) has some notion of measurement, (3) conserves at least partially, (4) believes change is not real, and (5) consistently conserves. These five items have been found by Kohlberg to form a scale of increasing difficulty, but for the purposes of scoring here, each received equal credit. We hoped in this way to note change from first to second testing in any of the elements that make up the conservation task. On the second portion of the conservation test, we gave the child one additional point for total conservation. Thus there was a maximum score of six points on this test.

A variant of this length conservation test, as well as a number of other Piaget tasks, was given to the winter group, but the results of these tests will not be reported here.

The test of conservation of length was included in the research because it is considered by Piaget to be a manifestation of operations of classification and seriation which develop during the preschool-early school period. Since Montessori also stresses the acquisition of such ordering relationships in this period, it seemed appropriate to assess a Montessori program using one of the Piaget tasks.

5. Egocentrism Test. This test was also administered twice, during the second through fourth weeks of school and again during the seventh and eight weeks. This is a test for egocentrism of the child's point of view, and is a derivation from and simplification of a Piaget test. A cardboard house with a door on one side and windows on the other is shown to the child, and then is held between the examiner and the child. The examiner determines by a series of questions whether the child can distinguish his own perspective of the house from the examiner's perspective. Only yes-no answers are required of the child. (For a list of the

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questions asked, see "Egocentrism Test" in the Appendix.) On this test the possible scores were "Pass" and "Fail". A child passed the test if he answered all questions correctly.

6. Teachers' Ratings of Classroom Behavior. During the fourth week of summer school, we asked the teachers to rate the children in their classrooms on the same traits as those we had rated during the IQ tests. We obtained these ratings only in Classrooms 1 and 2. The rating scale used was almost exactly the same as that used by the test examiners; we omitted two scales which were inappropriate for the classroom and slightly reworded some scale points to make them applicable to the classroom situation. The teachers' form of the rating scale is included in the Appendix ("Teachers' Ratings of Behavior").

This rating scale was also used by the four public school teachers in whose kindergarten classes the children were enrolled in the fall. Each teacher rated both the group of children in her class who had attended the Ancona school and a group comparable for age and sex who had not attended any school during the summer. At the Shakespeare school, during the fifth and sixth weeks of school, three teachers rated 8 children (4 boys and 4 girls) who had been in Classroom 1 at Ancona, and 8 comparison children (4 boys and 4 girls). Mean age for both groups was 5 years, 5 months. At the Shoesmith school, during the eighth week of school, one teacher rated 13 children (5 boys and 8 girls) who had been in Classrooms 2 and 3 at Ancona, and a comparison group of 10 children (4 boys and 6 girls). Mean age for both groups was 5 years, 5 months.

The purpose of the teachers' ratings was threefold: first, we wanted to determine to what extent a child's test behavior represented his typical school behavior; second, we wanted to note differences between behavior early in the summer and behavior in public school in the fall; third, we wanted to compare the behavior of the Ancona children with their public school peers.

Results

Intellectual Performance - Summer Program

Table III-1 shows the mean scores for first and second testing on all measures of intellectual performance for the summer group as a whole and for the individual classrooms. There were no significant differences on any of the intellectual measures from first to second testing, either for the entire group or in the individual classrooms.

(1) Stanford-Binet. On the Stanford-Binet scores, we did an analysis of variance of final scores, controlling for initial scores, for the three classrooms. There were no significant differences between examiners, the forms of the IQ test, nor any interactions between them and classroom. This gives assurance that theresults we obtained are not due to the examiner or to the form of the test ($F < 1.00$). Controlling for initial scores, there were no significant or close to significant differences in final IQ scores in any of the three summer classrooms, as compared with one another.

The first administration of the Stanford-Binet test revealed a difference among the classrooms in mean IQ: the mean IQ of Classroom I

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children was 10 points below that of the other two classrooms, while classrooms 2 and 3 were nearly equal in IQ. This difference among the classrooms was maintained on the second test. The IQ difference which existed between Classroom 1 and the other two classrooms was one indication that Classroom 1 children were drawn from a different population. This was the group that lived in a crowded lower-income area which was almost entirely Negro, and which showed a wide range of home conditions, including the most deprived homes in our sample.

Despite the lack of change in IQ in any of the three classrooms, and the lack of difference between the classrooms in final IQ, we looked at individual IQ change scores in the three classrooms to see if any trends existed in the data. In Classroom 1, 7 of the 9 children tested showed a decline in IQ from 1 to 10 points. This general decline was counteracted in the group mean, however, by one child who had an increase of 47 points.* (The remaining child showed no change in IQ.) When the one child who accounts for all the increase in mean IQ in this classroom is excluded from the analysis, the rest of the group shows a mean decrease from first to second test of 3.88 points, ($P < .01$). In Classroom 2, which showed a non-significant mean increase of 2.84 points, only 1 of 6 children declined from first to second test. In Classroom 3, which showed a non-significant mean decrease of 1.42 IQ points, 3 of 7 children declined. Thus the classrooms may be ordered in terms of the prevalence of decrease in IQ from first to second testing--from Classroom 1, where decrease in IQ was the most prevalent, through Classroom 3, to Classroom 2, where it was least prevalent. These differences among the classrooms in number of children showing IQ decline will be discussed further below, when we consider the ratings of behavior during the tests.

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* This child was virtually untestable when we first saw her (initial IQ 47), but became testable in the course of the eight week session. Her teacher's classroom log describes her gradual opening up in the classroom.

(2) *Goodenough-Harris Draw-a-Man Test*. The Goodenough-Harris test showed no significant differences between time 1 and time 2 scores for any classroom or for the group as a whole. The large (but non-significant) decline of 8 points in Classroom 3 is based on only three scores. Furthermore, children in the other classrooms showed both large increases (up to 18 points) and large decreases (up to 13 points) of the magnitude of the decreases in Classroom 3 (3 to 13 points). Thus we interpret the decline in Classroom 3 as the effect in a very small sample of a highly variable test. It is unlikely that the variability of scores is due to variations in the manner of giving the test (i.e., classroom group vs. individual testing), since in the classroom in which the largest change occurred from time 1 to time 2, the initial drawings were obtained individually, so that the conditions were most like those of the second test. Regardless of the source of variability, however, this test proved too unstable a measure of intellectual performance to be useful to us.

The Goodenough-Harris scores showed a low, positive correlation with IQ which was unstable: at time 1, the product-moment correlation was .36, ($P < .05$). The correlation at time 2 dropped to .14 (non-significant). It should be recalled, however, that the second Goodnough-Harris test

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preceded the second Stanford-Binet by four weeks. This may have produced or added to the instability of the relationship with Stanford-Binet IQ.

(3) Length Conservation Test. On the length conservation test there was a non-significant increase in the individual classrooms and in the group as a whole. This test showed a low negative correlation with IQ ($r = -.32$, N.S.) at time 1 which dropped to no correlation at time 2 ($r = -.01$, N.S.). As in the case of the Goodenough-Harris test, the instability of the relationship with IQ may be due to the fact that the tests at time 2 were administered four weeks apart.

(4) Egocentrism Test. The scores on the egocentrism test were virtually stationary: only two children showed a change in score from time 1 to time 2. The proportion of children passing was the same for both administrations of the test ($p = .58$). This test showed a low positive correlation with IQ ($r = .33$ at time 1, and $r = .30$ at time 2; $P > .05$). When time 1 and time 2 scores were summed, the correlation between egocentrism score and IQ was .45 ($P < .05$). This was not true of any other intellectual measure. The fact of this significant sum-score correlation and of the stability of the relation with IQ at time 2 points to a small, stable relationship between the two measures.

(5) Change Score Intercorrelations. Correlations between change scores for the intellectual measures were low and non-significant, with the exception of length conservation and egocentrism change scores, which correlated .40 ($P < .05$). Even this correlation cannot be interpreted, however, since there was so little change on the egocentrism test. The correlation probably reflects the stability of both measures.

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(That both measures were stable is indicated by the correlations of time 1 with time 2 scores. For the length conservation test, the correlation coefficient was .79; for the egocentrism test, the correlation between time 1 and time 2 scores was .84).

Ratings of Behavior During the IQ Tests - Summer Program

(1) Changes in test behavior in the total group and in the three classrooms separately. Changes in ratings of test behavior are shown in Table III-2. For the group as a whole, change occurred both in task orientation and in social behavior. Three task orientation scales showed changes significant at the .05 level of confidence: there was an increase in distractibility, an increase in activity level, and a decline in initiative in handling test materials. These three changes together point to less orientation to thetest. Change in social behavior was only marginally significant ($P < .10$): there was less fear of the examiner, more social initiative, and more communication of affect. Thus on the second test the group as a whole was less task oriented and tended to be more comfortable with the examiner than it was at the first testing.

Classroom 1 showed the most change of the three classes. In this class, the greatest change occurred in social behavior with the examiner: there was significantly less fear of the examiner, more social initiative with the examiner, and more communication of affect (the last was marginally significant). Change occurred also on task-orientation variables: more distractibility, higher activity level, faster speed of response on performance items. However, only the change in activity level was significant beyond the .05 level. Inspection of theintercorrelations of change scores on the test ratings (see Table III-3) suggests that the constellation of changes in task orientation which occurred in this class was associated with the children's changed relationship to the examiner. Increase in activity level, which is the most significant task-orientation change shown in classroom 1, is significantly correlated in our combined summer and winter groups with increase in distractibility, decrease in willingness to continue, and decrease in fear of the examiner. (See Table III-3 for change score intercorrelations.) Thus the rating of activity level relates to both task orientation and to freedom of social interaction. It appears that in Classroom 1 the changed relationship to the examiner was primary, while the changed orientation to the task was secondary.

It is important to note that the changes which occurred in Classroom 1 from time 1 to time 2 were not in the direction of deviation from the rest of the group. Rather, the changes served to bring the children more into conformity with the levels of the other classrooms. Classroom 1 children were initially more socially constricted and more focused upon the task than the other children in our sample; they moved toward the level of greater freedom and less task orientation in the test situation which had prevailed in the other classroom groups from the start.

In Classroom 2 there were no significant changes in test behavior from time 1 to time 2.

Classroom 3 showed changes on two scales having to do with task orientation: the children showed a significant increase in distractibility and a marginally significant decline in initiative with materials. In this classroom, as contrasted with classroom 1, there was no significant change in social behavior. Intercorrelations of the distractibility change score with change on other scales in our combined summer and winter groups (see Table III-3) supports the conclusion that the change consisted almost exclusively of less orientation to the task, and was not secondary to a change in the social relation to the examiner. Change in distractibility is not significantly correlated with change in scales relating to freedom of social interaction.

(2) Test behavior and IQ change. Correlation of IQ change scores with test ratings for our summer and winter groups combined (see Table III-4) provides an assessment of the relation of test behavior to IQ change in individual children. The first question to be asked of such data is: who changed? Correlation of IQ change scores with test 1 ratings indicate that those children who had the greatest increase in IQ showed on test 1 a slower speed of verbal response, less self-confidence on tasks, more need for reassurance, less sense of intellectual challenge, less social initiative, and less understandable speech. Thus the children who showed the greatest increase in IQ were more passive and less confident of themselves on the first test. While it would be possible to offer the alternative formulation that the children who declined in IQ were initially more active and confident, our acquaintance with the children who changed leads us to consider this formulation less meaningful. Regardless of our bias in formulation, however, it is clear that the constellation of behaviors on test 1

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predicting to IQ change were those relating to confidence and initiative both on the test and with the examiner.

Our second question about IQ change was: what behavior changes were associated with IQ change in individuals? Table III-4 lists the correlations of IQ change scores with change on test ratings for the summer and winter groups combined. IQ increase was significantly correlated with decrease in distractibility and with increases in speed of verbal response, initiative with materials, sense of intellectual challenge, willingness to continue, compliance, and understandability of speech. It is meaningful in terms of what we know of the individual children's behavior to conceive of these behavior changes as occurring in either direction, with concomitant increase or decline in IQ. Regardless of the direction of IQ change, then, change in IQ was associated with changes in ratings describing aspects of task orientation; it was not associated with changes in ratings describing social behavior.

The two dimensions of rating change most closely related to IQ change in the summer and winter groups combined were distractibility ($r = -.64$) and sense of intellectual challenge ($r = -.68$). Of these two, we focused upon the test ratings of distractibility, because it had shown change from time 1 to time 2 in the summer group as a whole and in two of the summer classrooms. Intercorrelations of change scores on test ratings for summer and winter groups showed that change in distractibility was significantly associated in individuals with change in a number of other scales describing aspects of task orientation: an increase in distractibility was associated with an increase in activity level.

decrease in persistence, increase in reassurance needed (reaction to failure), decrease in sense of intellectual challenge, decrease in willingness to continue, and decrease in compliance. This distractibility cluster includes four of the six scales associated with IQ change. Furthermore, five of the seven scales included in the cluster show change in our total summer group which is consistent with the direction of relationships among the scales in the cluster. (Only two of these five scales show significant change in the group, however. These two are distractibility and activity level.) Thus the distractivility scale is a good index to changes which were associated in individuals, which were related to IQ change, and which occurred in the summer group as a whole.

We did an analysis of variance of final distractibility scores in the summer group only, controlling for initial scores, paralleling our analysis of IQ scores. There were no significant differences between examiners, forms of the IQ test, nor any interaction between them and classroom. Thus the results we obtained on ratings of distractibility during the tests are not due to experimenter or form of the test ($F < 1.00$). Controlling for initial scores, there were no significant or close to significant differences in final scores on distractibility in any of the three summer classrooms, as compared with one another. In discussing changes in distractibility in the summer group, then, we must focus upon a change which occurred in the entire group, and which did not distinguish the classes from one another.

Though the change in distractibility in the summer group was not associated with a group change in IQ, nevertheless the pattern of individual

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IQ changes in the three classrooms reflects the relation between distractibility change and IQ change in individuals. In the two classrooms (1 and 3) which showed an increase in distractibility, there was a decline in IQ in 7/9 and in 3/7 of the children tested, respectively. In Classroom 2, which showed no significant change in distractibility, only 1/6 of the children tested declined in IQ.

Ancona Teachers' Ratings of Classroom Behavior - Summer Program

(1) Correlations between test ratings and teachers' ratings. Ratings of classroom behavior during the fourth week of the summer program in Classrooms 1 and 2 enabled us to assess the representativeness of the children's behavior during the tests. Table III-5 shows the correlations found between test ratings and teachers' ratings descriptive of task orientation. (We did not directly compare the ratings of social behavior.) On test 1, there were significant positive correlations between test ratings and teachers' ratings of distractibility, self-confidence on tasks, persistence, and sense of intellectual challenge. On test 2, there were significant positive correlations with teachers' ratings of activity level and reaction to failure. We interpret this shift in the constellation of significant correlations as a shift from behavior in the test representative of task orientation in the classroom to behavior representative of social behavior in the classroom. The reason for our interpretation of test 1 behavior as representative of task orientation in the classroom is obvious: the behaviors which were related in test and classroom are those describing task orientation. The reason for our interpretation of test 2 behavior as representative of social behavior in the classroom is less

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clear and less firmly supported: the two scales on which significant positive correlations did occur were those aspects of task behavior most social in nature. The need for reassurance from the examiner is obviously an aspect of social interaction. Activity level is less obviously so, but correlations of other rating scales with activity level on test 2 for our summer and winter groups combined indicate that it was highly related to social behavior with the examiner. Significant correlations ($P < .05$) with test 2 activity level were obtained for test 2 distractibility ($r = -.49$), social initiative ($r = .78$), expression of affect ($r = .42$), and fear of adult ($r = .72$). Since the group as a whole increased in freedom of social interaction on test 2, and declined in task orientation, we can infer from the correlations between behavior in the classroom and behavior during the two tests that in the classroom the teachers saw both good task orientation and freedom of social interaction with adults. These tended not to occur together in the tests.

(2) Teachers' ratings of behavior and IQ change. A number of the teachers' ratings were predictive of IQ change (see Table III-4). IQ increase was associated with greater distractibility in the classroom, less initiative with materials, less self-confidence on tasks, less persistence, and less sense of intellectual challenge. This constellation of variables is similar to the test 1 behaviors discussed above which also predicted to IQ change. That is, the children who had the most increase in IQ from test 1 to test 2 were those who were the least confident and showed the least initiative both in the classroom during the fourth week of the summer and during the first test. One additional variable was predictive

of IQ increase: more frequent choice of white children in the child's own class in the initial sociometric interview (r = .49). (This pertains only to the two integrated summer classrooms--2 and 3--and the winter group.) This correlation can be understood by noting some of the variables associated with initial choice of white children: fear of adult on test I (r = .42), more reassurance needed in the classroom (r = .95); lower activity level in the classroom (r= .53); and less self-confidence on tasks in the classroom (r = .36). Thus both change in IQ and early choice of white children were associated with lack of self-confidence and a need for support from adults. It is probable that the IQ increases which occurred in the summer program were a matter of gaining confidence to act. (This was clearly true in the cases of the three children--all girls--who showed the greatest increases in IQ in the summer program--47, 10, and 8 points. A gross change in behavior was noted both by teachers and by testers.)

Public School Teachers' Ratings of Classroom Behavior - Summer Program

(1) Comparison of Ancona Program children and their kindergarten peers. Table III-6 shows the mean rating scores given by the public school teachers during the fifth to eighth week of school to the children who had attended the Ancona summer session and to a comparison group of public school kindergarten children who had attended no summer preschool. For the group as a whole, there were only two marginally significant differences: the Ancona children showed more social initiative with the teacher and were more expressive of emotion in the classroom. This difference was dependent almost entirely upon the differences of Classroom 2 and 3 children from their control group. The children of these two classrooms all

attended the Shoesmith School in the fall, and were enrolled in two classes taught by the same teacher. Classroom 1 children differed from their controls on these two scales in the same direction as Classrooms 2 and 3, but the differences were small and not significant. These children all attended the Shakespeare School, and were enrolled in four different classes taught by three teachers.

One difference between Classroom 1 and the other two classrooms which is immediately apparent is that the Classroom 1 children did not remain together when they entered public school, and therefore lost whatever support they might have had from the group. Secondly, we found in observations in the public school classrooms that, although they differedd from one another in many respects, the Shakespeare classes, where Classroom 1 children were enrolled, were consistently less permissive than the Shoesmith classes. The Shoesmith teacher, after a summer's experience in Head Start, had decided to try a more permissive program than was her usual custom. Furthermore, she seemed to focus more than the three Shakespeare teachers on eliciting independent and individualistic behavior in the children. Thus her classroom provided an atmosphere in which group differences in expressiveness with an adult could be manifested.

It is interesting to note that no differences existed between Ancona children and controls on task-orientation dimensions of the rating scales. We believe, from our conversations with teachers during the first few weeks of school, that these or other differences may have existed initially in the Shoesmith group (Classrooms 2 and 3), but were not apparent by the time the ratings were done in the fifth to eighth weeks of school.

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The Shoesmith teacher commented during the second week of school that the children were "all ready" for school, unlike groups she had known in the past, who spent about three weeks just getting used to being in school. A few weeks later when we asked her about differences between the groups, she said that none were noticeable. At the Shakespeare school, where Classroom 1 children were enrolled, the teachers noted no differences in behavior between Ancona children and children who had not attended summer preschool. In the case of two of our children, they were surprised to learn that they had attended preschool.

(2) Changes in classroom behavior from summer preschool to kindergarten in the fall. We compared the public school teachers' ratings with ratings by Ancona teachers, disregarding possible differences in rater bias and treating changes in ratings as indicative of real change in behavior. (See Table III-6b for the means of ratings in Classrooms 1 and 2 at Ancona and in public school.) First, we found that change scores from time 1 (Ancona) to time 2 (public school) on teachers' ratings of task-orientation variables correlated significantly with IQ change in several instances (see Table III-4). An increase in IQ was associated in teachers' ratings with a decline in distractibility, increase in initiative with materials, increase in persistence, decline in the amount of reassurance needed, and increase in the sense of intellectual challenge. Three of these five changes parallel the changes in test behavior which were associated with IQ increase. Furthermore, both test behavior changes and classroom behavior changes are consistent with our picture of the initial behavior of those children who showed IQ change. It appears that

the children who gained in IQ needed to gain self-confidence and independence, and did so both in the classroom and in the test situation.

IQ change was not, of course, characteristic of the group as a whole, and these relationships between IQ change and change in test and classroom ratings do not hold for the group. Inspection of the direction of change in classroom behavior for the entire group indicates that classroom behavior showed a different constellation of changes than did test behavior. On the test, the group became more distractible, more active, and more expressive of emotion; in the classroom there were small changes in the direction of less distractibility, lower activity level, and less expression of emotion. In both the test and the classroom, the group became less fearful of the adult, showed more social initiative with the adult, and showed less initiative with materials. Again, the classroom changes were small. Thus, while individuals who changed in IQ showed parallel changes in task-orientation in test and classroom the group as a whole did not show parallel changes in the two situations. Group changes in social behavior did parallel one another in test and classroom. This finding reinforces the statement made earlier that both freedom in social behavior and good task orientation could exist in the classroom but did not exist in our tests--at least, for the group as a whole.

Results of Testing in the Winter Program

At this time we have the results of intelligence tests and ratings during the tests for the children included in our year-long program, and we have done some analyses of the data. (See Table III-7 for mean IQ scores and mean test ratings for the three tests.) For the 9 children who were tested and time 1 and time 2, there was a mean increase in IQ of 16.45 points ($P < .01$). The 8 children who were tested all three times showed a slight drop in IQ (3.62 points) from time 2 to time 3, but the initial gain was substantially maintained.

An analysis of variance of final scores controlling for initial scores was reported above for the three summer classrooms. When the winter classroom was added into this analysis, there was a marginally significant difference in final IQs between the winter group and the other groups in the direction of increase in the winter group ($P < .10$). Furthermore, this analysis showed a highly significant change in final distractibility ratings such that the final score on distractibility was significantly lower in the winter classroom than it was in any of the other classrooms ($P < .0001$). Thus, in comparison with the summer group, the winter group showed a greater increase in IQ and a change in distractibility ratings which was opposite in direction (i.e., less distractibility) to the change in the summer group.

When a step-down analysis of covariance is performed for the four classrooms, in which the effects of change in distractibility is controlled, the differences between classrooms in IQ disappeans ($F = .24$, $P = .63$). Thus the relationship noted above in discussion of the summer group results between IQ and distractibility becomes even more strinking when the winter group, which showed a large change in IQ, is included. Since there was no significant change in group mean IQ's in the summer group, the relationship between change in distractibility and change

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in IQ could only be seen in individuals. As previously mentioned, the correlation between change scores in IQ and in test ratings of distractibility for the four classrooms combined is -.64.

The test rating of activity level also changed in a direction opposite to the summer group, but this change was less marked than the change in distractibility. Changes in the four other dimensions which showed change in the summer group were parallel to the summer changes. This confirms our observation that IQ changes were related to changes in task orientation but were not directly related to changes in the social relationship with the examiner.

There are three possible reasons for our finding of significant change in IQ in the winter program which was not present in the summer program: the children were younger, the interval between tests was longer, and the program of the Montessori teacher was markedly changed from the summer program. We will consider each of these in the discussion below.

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Summary and Discussion

The most prominent finding in our research is that there was no significant group change on any of our measures of intellectual performance as a result of the eight week summer program for five-year-old children, while in contrast there was a significant mean increase of 16 points in IQ after 15 weeks of our year-long program for three- and four-year-old children.

The Piaget-type tests of length conservation and egocentrism of point of view, which we especially included to study the Montessori summer classroom (Classroom 3) failed to distinguish that classroom from the other two summer groups. In fact, none of the small changes in the intellectual measures which did occur distinguished any of our three quite different summer classrooms from any other.

In an attempt to understand the reason for the IQ change in the winter group and its absence in the summer, we looked at the correlates of IQ change in test behavior for the winter and summer groups combined, and in classroom behavior for the summer group only. The most important correlate of IQ change which we found was change in the rating of distractibility on the test. Change in IQ was significantly correlated ($r = -.64$, $P < .05$) with change in the test rating of distractibility, such that there was a decline in distractibility with increase in IQ and an increase in distractibility with decline in IQ. Furthermore, the winter class differed from the three summer classes in amount of IQ change, but this difference disappeared when distractibility change was held constant. Finally, even in the summer group, where amount of mean change in IQ did not distinguish the three classes from one another, the rank order of the classroomsfor amount of mean increase in distractibility paralled the rank order for number of children declining in IQ. In sum, then, amount and direction of distractibility change paralleled IQ change both in individuals and in groups.

A look at our distractibility scale suggests why this is so. (See "Ratings of Behavior During Individual Intelligence Testing," in the Appendix.) The points along the scale describe the subject as (1) "absorbed," (3) "interested and attentive," (5) giving "sufficient attention" to the test, (7) giving attention only "with effort," or (9) giving attention to the test only through the effort of the examiner, who finds this "difficult." To be absorbed, interested, or sufficiently attentive in a test implies that the situation and the problems it presents are meaningful to a child and that he has accepted his role in the situation as it is defined by the adult. The intercorrelations of distractibility change with change in other scales describing test behavior support these implications. The fact that a decrease in distractibility is correlated with increases in persistence and in sense of intellectual challenge suggests that the child has accepted the problems of the test as meaningful ones. The fact that distractibility decrease is correlated with decrease in activity level and increases in compliance and willingness to continue suggests that the child is willing to conform to the demands of the adult. The distractibility-attentiveness dimension, then, is the outcome of a number of factors affecting test performance as such in the testing situation.

Another aspect of the investigation of IQ change was identification of the characteristics of children who showed an increase in IQ. In the combined summer and winter groups the children who showed the most change in IQ were lacking on the first test in self-confidence and initiative, both in dealing with the test items and in relating to the examiner. On the second test their behavior changed in the direction of greater initiative and interest in the test and greater compliance with the demands of the examiner. Initial mean ratings for the four classrooms suggest, and require us to consider, whether this picture of the children who changed in IQ might simply be a result of the younger age of the three- and four-year-olds of the winter program, who increased so much in IQ, with age as a common causal factor for IQ change and behavior change. However, when we look at the classroom behavior correlated with IQ increase in the summer program alone, we find a similar picture. Thus the initial lack of self-confidence and initiative as such is related to IQ increase, though it may be more prevalent in younger children.

It is important to note that IQ change was not related to change in the dimensions of fear of the adult or expression of emotion with the adult, but only to the degree of activity or passivity in relating to the adult. Self-confidence, not freedom _per se_, was important in IQ change.

We have identified the behavior associated with IQ change in the summer and winter programs and suggested that such behavior may be more prevalent in younger children. We have yet to consider three other differences which existed between our summer and winter groups which

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might account for the differences in IQ change. First is the fact that the length of time between tests, and consequently the amount of learning which might have occurred, was greater for the winter group. We tend to discount this factor because so many children in our summer group showed a decline in IQ rather than the slight increase which would be expected under this hypothesis, while every child in the winter group showed an increase of at least 7 IQ points.

Second, the age of the children in the winter group may have affected the results in another way than the one already considered. It may be that the gains in attentiveness and self-confidence in the test situation which were related to IQ gain are more important for the earlier, less verbal and moreconcrete items of the Stanford-Binet than they are for later, more abstract and verbal items. We cannot evaluate this possibility on the basis of our data.

Finally, and most obviously, is the change which occurred in the winter Montessori program as contrasted with the summer. With more time available to her, the teacher felt able to proceed more slowly and carefully in the development of concepts and discrimination skills. Furthermore, freed from some of the summer's administrative chores, she was able to devote more time ti individual instruction. Finally, she added a number of materials and methods to her classroom which were designed to extend the sortsof concept development promoted. Given these changes from the summer program, it seems likely that the development of the ability to follow a variety of instructions in the use of materials and to work independently both were enhanced. In fact, in a year's-end report,

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the teacher mentions these as specific developments which occurred in the group of lower-income children. Both the ability to follow instructions and the ability to work independently on a problem are behaviors which seem likely to affect performance on an intelligence test. They are, in fact, two types of behavior with which IQ increase was correlated.

Returning to the summer group, we can detail some effects which resulted from the eight-week session, effects which were reflected in test and teachers' ratings and in the informal observations of the public school teachers in whose classes the children were enrolled in the fall. First, there was an immediate readiness to begin school work noted by theteacher who had all the Classroom 2 and 3 children in her kindergarten. This initial advance over the other children had been lost to observation, however, by the eight week of school. The three teachers who had the Classroom 1 children in their kindergarten classes did not notice such an initial difference in the children. This difference among the classrooms in the public school teachers' reactions to them can be accounted for by noting the aims of the different Ancona teachers and the degree of similarity between Ancona and public school classrooms. In Classroom 1 the Ancona teachars did not aim to prepare the children for the structure and demands of the public school classroom, stressing instead permissiveness and satisfaction of emotional needs. Furthermore, their children entered the three public school classrooms of the four we observed where the least permissiveness and the most expectation of order and conformity prevailed. Thus the Classroom 1 children entered an atmosphere contrary to the one they had known during the summer, and it is not surprising that they showed no special facility in meeting its demands. In Classrooms 2 and 3, in contrast, there had been some deliberate preparation for the demands of public school, and these children entered the most permissive of the four classrooms we observed. Their public school class was therefore quite similar to the summer experience.

The second effect of the summer experience which we noted was seen in the difference between Ancona children and public school peers on teachers' ratings of behavior. In Classroom 1 no differences were found. In Classrooms 2 and 3, the Ancona Children showed more social initiative with the teacher and more expression of emotion in the classroom. This was a relatively enduring effect, noted in the eighth week of public school. Two factors may account for its appearance in Classrooms 2 and 3 and its absence in Classroom 1. First, the children of Classrooms 2 and 3 were able to remain together in public school, and may therefore have gained support for greater social freedom from the other members of the group. Second, the relative permissiveness which prevailed in their public school classroom provided an opportunity for group differences in social initiative and expressiveness to be manifested. The Classroom 1 children did not remain together and did not enter the more permissive classroom. An increased freedom of relating to an adult was noted also in the test behavior of the children, where it did occur in Classroom 1 as well as for the Ancona group as a whole. Thus we ascribe major importance to the permissiveness of the public school teacher who had Classrooms 2 and 3 in her kindergarten for providing the occasion for the appearance

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of this behavior differentiating the Ancona children from their public school peers.

It is not difficult to account for this finding of relative freedom in relating to an adult. Although our Ancona Classes differed from one another in many ways, they all shared a low teacher-pupil ratio, a strong tendency to focus on individual children, and an awareness that this summer experience was to be a bridge between the needs of the children and the demands of public school. Each teacher provided the bridge in a different way, but in the process each encouraged a rather high degree of freedom of choice and of expressiveness in the children.

It seems likely that the increased freedom with an adult which resulted from the summer program is one part of what is necessary to a good teacher-pupil relationship. The results of our year-long program with younger children suggest that the Montessori classroom, with its emphases on individual teaching and independent learning may turn such freedom into gains in intellectual performance.

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Table III-1

Mean Scores on Tests of Intellectual Performance in the Summer Program*

	Classroom 1		Classroom 2		Classroom 3		Total Group	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Stanford-Binet	83.89	85.67	94.33	97.17	95.71	94.29	90.50	91.55
Goodenough-Harris	70.00	70.29	69.75	73.50	83.00	74.67	72.71	72.14
Length Conservation	2.86	3.29	4.00	4.50	3.00	3.43	3.25	3.70
Egocentrism							p=.58	p=.58

*None of the changes from Time 1 to Time 2 reached significance at the .10 level.

Table III-2

Mean Scores on Ratings of Behavior During the IQ Tests in the Summer Program

	Classroom 1			Classroom 2			Classroom 3			Total Group		
	Test 1	Test 2	Signif. Level	Test 1	Test 2	Signif. Level	Test 1	Test 2	Signif. Level	Test 1	Test 2	Signif. Level
Distractibility	4.00	6.12	.10	5.67	5.33		5.14	6.28	.05	4.86	5.95	.05
Activity Level	6.12	4.00	.02	4.67	4.00		4.71	4.43		5.24	4.14	.01
Speed of R - Verbal	5.50	4.50		5.83	5.83		5.00	5.14		5.43	5.10	
Speed of R - Perform.	5.25	4.12	.10	3.67	4.67		4.43	4.71		4.52	4.48	
Initiative - Materials	6.00	6.88		4.33	5.17		4.86	6.43	.10	5.14	6.24	.01
Self-Conf. on Tasks	5.86	4.57		5.33	6.17		5.00	5.29		5.40	5.30	
Persistence	5.12	6.12		6.50	5.67		5.43	6.00		5.62	5.95	
Reaction to Failure	3.00	2.25		3.83	3.17		3.00	2.14		3.24	2.48	
Sense of Intell. Chal.	5.50	6.00		6.00	5.67		6.00	5.57		5.81	5.76	
Willingness to Continue	5.50	5.50		5.50	5.00		5.29	5.86		5.43	5.48	
Fear of Adult	5.62	3.75	.05	3.67	3.33		3.86	3.57		4.48	3.57	.10
Social Initiative-Adult	5.50	3.75	.01	4.17	3.83		4.00	4.00		4.62	3.86	.10
Communication of Affect	5.38	4.62	.10	4.17	4.00		4.86	4.43		4.86	4.38	.10
Compliance with Adult	3.62	5.38		5.33	4.83		5.57	5.14		4.76	5.14	
Verbalization	6.38	5.88		5.00	5.67		5.86	5.71		5.81	5.76	

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Table III-3

Intercorrelations of Change Scores on Test Ratings for the Summer and Winter Groups Combined

	Distractibility	Activ. Level	Speed-Verbal	Speed-Perform.	Initiative	Self-Conf.	Persistence	Reac. Failure	Intell. Chal.	Willing. Cont.	Fear of Adult	Soc. Initiative	Commun. Affect	Compliance	Verbalization
Distractibility															
Activ. Level	-.54*														
Speed-Verbal	.31	.07													
Speed-Perform.	.04	.03	.66*												
Initiative	.33	.25	.44*	.41*											
Self-Conf.	-.09	.05	.77*	.78*	.42*										
Persistence	.54*	-.20	.24	-.02	.54*	.24									
Reac. Failure	.39*	-.19	.31	.22	.03	-.01	-.07								
Intell. Chal.	.38*	.05	.48*	.10	.27	.37*	.51*	.12							
Willing. Cont.	.55*	-.45*	.46*	.31	.25	.47*	.53*	-.01	.52*						
Fear of Adult	-.30	.45*	.20	.33	.13	.28	-.19	.08	.15	-.12					
Soc. Initiative	-.15	.34	.25	.23	.14	.37*	-.28	.15	-.02	-.13	.46*				
Commun. Affect	-.08	.18	.17	.15	.18	.28	-.03	-.22	.22	.36*	.25	.10			
Compliance	.43*	-.22	.19	-.09	.14	.08	.49*	-.06	.49*	.45*	-.27	-.16	.14		
Verbalization	.35	-.13	.45*	.35	.20	.40*	.06	.20	.34	.37*	.07	.16	.05	.14	

$* \, p \leq .05$

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Table III-4

Behavior Rating Correlates of IQ change

	IQ 2-1 x Test 1 Ratings (Winter Group Included)	IQ 2-1 x Test Ratings 2-1 (Winter Group Included)	IQ 2-1 x Ancona Teachers' Ratings	IQ 2-1 x Teacher Ratings 2-1
Distractibility	.32	-.64*	.51*	-.44*
Activity Level	.08	.08	.31	-.27
Speed of R - Verbal	.50*	-.57*		
Speed of R - Performance	.08	-.21		
Initiative with Materials	.08	-.40*	.40*	-.38*
Self-Confidence on Tasks	.45*	-.33	.45*	-.34
Persistence	.14	-.33	.58*	-.45*
Reaction to Failure	.50*	-.24	.10	-.37*
Sense of Intell. Challenge	.49*	-.63*	.42*	-.71*
Willingness to Continue	.28	-.43*		
Fear of Adult	.33	.11		
Social Initiative-Adult	.39*	-.25		
Communication of Affect	.33	-.15		
Compliance with Adult	.35	-.39*		
Verbalization	.43*	-.56*		

* $P \leq .05$

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Table III-5

Correlation of Test Ratings with Ancona Teachers' Ratings

Summer Classrooms I and 2 Combined

	Test 1 Ratings x Ancona Teachers' Ratings	Test 2 Ratings x Ancona Teachers' Ratings
Distractibility	.61*	-.11
Activity Level	.18	.64*
Initiative - Materials	.12	.29
Self-Confidnece - Tasks	.80*	.12
Persistence	.42*	-.11
Reaction to Failure	-.32	.45*
Sense of Intell. Chal.	.42*	.04

* $p \leq .05$

Table III-6a

Public School Teachers' Ratings of Behavior in Their Classrooms

	Ancona Classroom 1	Shakespeare Comparison	Signif. Level	Ancona Classroom 2	Shoesmith Comparison	Signif. Level	Ancona Classroom 3	Shoesmith Comparison	Signif. Level	All Ancona	All Comparison	Signif. Level
Distractibility	4.00	6.00		5.83	6.70		5.86	6.70		5.14	6.39	
Activity Level	4.25	3.50		4.17	5.60		5.29	5.60		4.57	4.67	
Initiative - Materials	5.25	4.75		5.33	5.30		5.14	5.30		5.24	5.06	
Self-Conf. on Tasks	5.12	5.25		6.00	5.50		6.00	5.50		5.67	5.39	
Persistence	5.00	6.00		6.17	6.20		5.71	6.20		5.57	6.11	
Reaction to Failure	3.12	3.75		5.33	5.80		4.86	5.80		4.33	4.89	
Sense of Intell. Chal.	5.12	6.62		6.83	6.10		6.71	6.10		6.14	6.33	
Fear of Adult	3.00	3.75		5.17	6.00		4.57	6.00		4.14	5.00	
Social Initiative - Adult	4.12	4.38		4.83	6.90	.10	4.14	6.90	.02	4.33	5.78	.10
Communication of Emotion	3.38	4.38		4.33	7.00	.05	5.57	7.00	.10	4.38	5.83	.10
Compliance with Adult	4.71	5.00		5.00	4.60		4.43	4.60		4.70	4.78	
Verbalization	3.00	4.12		4.33	4.70		4.57	4.70		3.95	4.44	

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Table III-6b

Comparison of Ancona and Public School Teachers' Ratings

	Ancona Ratings Classrooms 1 & 2	Public School Ratings Classrooms 1 & 2
Distractibility	5.62	5.08
Activity Level	4.15	4.31
Initiative - Materials	3.69	5.31
Self-Conf. on Tasks	5.00	5.54
Persistence	6.15	5.62
Reaction to Failure	3.85	4.08
Sense of Intell. Chal.	5.69	6.08
Fear of Adult	4.08	3.85
Social Initiative - Adult	4.92	4.31
Communication of Emotion	3.23	3.77
Compliance with Adult	5.62	4.85
Verbalization	5.92	3.62

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Table III-7

Mean IQ's and Test Rating Scores in the Winter Program

	Test 1	Test 2	Test 3
IQ - 9 Subjects	88.44	104.89	
IQ - 8 Subjects	90.75	107.50	103.88
Distractibility	7.33	5.33	5.62
Activity Level	4.22	5.33	4.88
Speed of Response - Verbal	6.89	5.56	5.75
Speed of Response - Performance	4.22	4.00	3.25
Initiative with Materials	4.11	4.14	4.75
Self-Confidence on Tasks	4.80	4.83	5.14
Persistence	6.89	5.67	6.43
Reaction to Failure	4.50	4.50	3.00
Sense of Intellectual Challenge	7.00	6.00	6.57
Willingness to Continue	6.67	5.33	5.88
Fear of Adult	5.44	5.12	4.25
Social Initiative with Adult	6.11	5.78	5.25
Communication of Affect	6.50	5.25	4.75
Compliance with Adult	6.33	6.00	5.25
Verbalization	8.00	4.71	5.62

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IV. Social Interaction in the Classrooms

Sociometric Tests*

Summer Project

Procedure

Sociometric tests were administered to both lower income Negro and middle income white children during the second week of the school period and again during the last week. By the first administration, then, children had had at least a week to become acquainted, and within their own groups (i.e., lower income Negro and middle income white) many were friends before school began, the lower income Negro children living nearby and having played together, and the middle income white children having been in school together the previous year.

A polaroid camera was used to take pictures of all the children prior to testing. Children were posed sitting on a table so that a full figure was shown. Most children smiled broadly for their pictures. The photographs were mounted on large sheets of white poster board by class, and were arranged in a random pattern, alternating boy-girl and lower income Negro-middle income white as much as possible. Names of the children were written in for the examiner's benefit.

Children accompanied the examiner (male for the first administration, female for the second) from the classroom to the testing room one at a time. All were familiar with the examiners, and none was reluctant to go. Receiving the duplicate of one's picture, plus a piece of candy, were added inducements.

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* This section of the report was prepared by Robert Nordan.

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When the child arrived at the testing room, he found the board with pictures from his class already exposed. Most children began to look at the board eagerly and to make various comments about the pictures. If the child had not already found and mentioned his picture, the examiner asked him if he could find it. Then, to emphasize the fact that the whole class was represented, the child was asked if he knew the names of the children in his class. Many spontaneously began naming children; if not, the examiner pointed and aided the child in naming all the children. To get him used to the naming, or choice-making process, the child was then asked to pick the "strongest" person in his class, which usually elicited the response, "Me!"

The sociometric test proper began with the child's being asked to choose someone he would like to play with if he were to return another day to "play games." An attempt was made to get eight choices, which was difficult in many cases; the examiner urged the child as much as possible to make all eight choices. A similar procedure was followed when the child was shown the pictures from the other classroom, and even fewer choices could be elicited; and some children refused to make any choices on the basis of "I don't know them." At this point the child was again shown the pictures of the children in his own class and asked if there were anyone whom he would not like to play with. An attempt was made to elicit two choices; some of the children were unable to understand the negative concept, even with extensive interpretations from the examiner. Finally, the child was asked if he had ever played with any of the children at home. For all choices--own class, other class, don't like to play

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with, and would like to play with at home--the child was asked to provide a reason.

Having made his choices, the child was then presented with his duplicate picture and a piece of candy and taken back to his class.

Results

In both rooms there seems to have been more interaction between the two groups* at the end of the school period than at the beginning. Table IV-1a indicates that in Room 2 lower income Negro children mainly picked others of their group for their first three "like" choices at the first testing session. By the end of school, however, their choices of middle income white children had almost trebled. Correspondingly, the latter group of children picked more than twice as many lower income Negro children at the second testing, though these choices seem to have been mainly deferred from previous middle income Negro choices; their choices of middle income white children stayed nearly the same.

The choices of middle income white children in Room 3 followed a similar pattern, though more extreme (See Table IV-1b). First three "like" choices of these children jumped from 16.6% lower income Negro at the first session to 49.8% lower income Negro at the second session. Some of these choices were those originally given to middle income Negro children, but there was also a noticeable drop in their choice of middle income white children. The pattern of lower income Negro choices, on

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* Results for middle income Negro children are omitted since only one was left at the end of the school period.

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the other hand, differed from that in Room 2, and there was little change. In the beginning, lower income Negro children picked mostly middle income Negro children (50%), with only 20% of their choices going to middle income white children. At the later session their middle income white choices had increased only to 22%, with the remaining choices being split equally between other lower income Negro and middle income Negro children.

When all choices (not just the first three) are considered, the pattern of choices in the two rooms changes somewhat. (See Tables IV-2a and b) In Room 2 lower income Negro children picked other lower income Negro children on nearly two-thirds of their choices at both testing times; their choices of middle income white children dropped somewhat at the second testing. Middle income white children, on the other hand, gave nearly 50% of their choices to lower income Negro children at Time 1 and increased this to 70% at Time 2.

In Room 3, lower income Negro children split their choices at both Time 1 and Time 2 almost evenly between other lower income Negro children, middle income white and middle income Negro children. Middle income white children also gave an equal spread of choices at Time 2, though at Time 1 they had chosen lower income Negro children only 14.4% of the time.

One can tentatively conclude, then, that by the end of school middle income white children were actively seeking out the lower income Negro children as friends (at least, on their sociometric choices) and that in Room 2 the same thing was happening on the part of the lower income Negro children (considering only first three choices), though not in Room 3.

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The interaction effects described above did not generalize when the children made other-class "like" choices. In both classrooms, lower income Negro children mainly picked other lower income Negro children at the beginning and at the end; and middle income white children mainly picked other middle income white children at the beginning and at the end. In Room 3 middle income white choices of other middle income white children actually increased. (See Tables IV-3, a and b.) Thus, it seems that when the children had a chance to interact with each other in the classroom, their "like" choices were based on actual likes and dislikes of the personalities or characteristics of the other children. When there was no classroom interaction, they maintained in-group choices based on previous experience, i.e., the lower income Negro children in both rooms lived near each other and played together, and many of the middle income white children had previously been in the same room at school together.

Some of the trends described above are verified by significant correlations. At Time 1, there is a correlation between making lower income Negro "like" choices in one's own room and in the other classroom. The same is true for middle income white choices. At the end of school, however, these correlations become negative. It is also to be noted that while there is a correlation between a lower income Negro's choosing lower income Negro children and in turn, being chosen by them at the beginning, this correlation, too, becomes negative at Time 2. At both times there is a negative correlation between a middle income white child's choosing other middle income white children and being chosen by them in turn.

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In Room 2, where numbers of lower income and middle income children were more evenly balanced, "don't like" choices of both middle income white and lower income Negro children were largely directed toward lower income Negro children at both testing periods. (See Table IV-4a). In Room 3, with a smaller percentage of lower income Negroes, 50% of both lower income Negro and middle income white choices were from this group at the first choice period; at the second period they had increased to 60% and 80%, respectively. (See Table IV-4b). It should be noted, however, that rather aggressive boys in Room 3, and a girl in Room 2, who antagonized everyone, including the staff, were the recipients of nearly all of these choices.

In most instances children were reluctant to give reasons for their choices and often replied with "I don't know," or "I just like him," etc. Thus, no specific results can be given for the reasons for choice, except to note that the reasons emphasized the physical. Aspects of a child's clothes, hair style, strength, good looks, etc. were more frequently used for reasons than any other personable attributes. Friendship, knowledge, abilities, etc. received much less emphasis. This was true of all children at both periods of testing.

Reasons for "don't like" choices were even less frequent and generally centered around agression or simply being "bad." Appearance was seldom given as a reason, and color was never mentioned.

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Winter Project

Procedure

Sociometric tests were administered to the winter group the second week after school began, the second week of the New Year, and the week before school was out. The procedure was similar to that described above, each subject being individually tested. There were a male and a female examiner, and each tested both boys and girls. Instead of being shown pictures of children in another classroom in order to make an "other class" choice, children who attended school in the morning were shown pictures of the afternoon class, and vice-versa.

The questionnaire for these tests was greatly shortened, and the examiners probably deviated from it more during testing than with the summer group in the attempt to explain the task. Since the children were younger, many of them did not understand what they were to do, particularly in making "don't like" choices. In all, they were asked for three "like" choices in their own class and two "don't like", and three "like" choices in the other class. Even these were difficult to get, and reasons for the choices made more so. The last part of the test was dropped (i.e., the part concerning at-home play among children) since this elicited little relevant information from the summer group.

Though no record was kept of the responses, it was interesting to note how many of the names of the other children (and which names) each child knew when initially asked to name the children in his class. Even at the second administration, some children knew mainly the names of

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those in their own "group" (i.e., middle income or lower income). If similar tests were administered to another group, it would certainly be relevant to record the names of the children that each child did (or did not) know.

Results*

Unlike the summer program the year-long program shows very little change in patterns of choices during the period and suggests that less interaction took place between the groups of children. In their own class, (see Table IV-5) lower income Negro children gave nearly two-thirds of their "like" choices to middle income white children at the beginning of school and at the end, and somewhat more than half at the mid-year choice time. Their choices of middle income Negro children averaged 15% over the year, and their choice of other lower income Negro children was never more than 28% (at the mid-year period). Middle income Negro children almost completely ignored the lower income Negro children, giving them no more than 5% of their choices at any time, and picking a majority of middle income white children for friends at all three times. Middle income white children tended to ignore both the other two groups, choosing other middle income white children 71% of the time in the Fall, 66% at the mid-year point, and 72% in the Spring.

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* Results from both classrooms were combined. There were three lower income Negro children in the morning class, seven in the afternoon, [illegible] for a total of ten lower income Negro among 34 middle income white and Negro.

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Choices in the "other class" followed a somewhat similar pattern. (See Table IV-6.) Lower income Negro children picked more middle income white children for friends during the first two choice periods, but this dropped at Time 3 when 50% of their choices were of other lower income Negro children. Again, both groups of middle income children tended to ignore the lower income children, and at the end of school overwhelmingly picked for friends middle income white children.

That the lower income Negro children were ignored rather than actively disliked is indicated to some extent by the "don't like" choices. (See Table IV-7.) In nearly every instance middle income white children received the majority of "don't like" choices from other middle income white children, from middle income Negro children, and from lower income Negro children. The only exception is that at Time 2, lower income Negro children received 46% of the middle income white choices, slightly more than those going to other middle income white children.

Again, children were reluctant to give reasons for their choices, especially the less verbal lower income Negro children. The great majority of reasons fell into the categories of "Friend" (i.e., "Because he's my friend.") or "Like" (i.e., "Because I like him."). The next two reasons most frequently given were reasons of play ("He plays with me," or "I like to play with him.") or of reciprocal liking ("He likes me.") Unlike the children in the summer project, these children almost never gave reasons based on physical characteristics or appearance.

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Here, too, the major reason for "don't like" choices was aggression (35%), with two-thirds of these reasons being given for choices of disliked middle income white children. Being "bad" or "mean" was the second most frequently given reason. Reasons of appearance were almost never given.

Codings of Social Interaction Among the Children

Procedure

In our attempts to asses the effects of establishing classrooms integrated with regard to race and income level, we supplemented our sociometric data with observations in the classrooms. This was done only during the summer program. During the fifth and sixth weeks of the session, we spent one day in each of the two integrated classrooms and one day, for comparison, in the unintegrated classroom. (A second day of observation in the unintegrated classroom is not reported here because of a variation in procedure.) Two observers were present, and coded the behavior they observed according to the categories listed in the Appendix (Social Interaction Coding Categories). These categories were adapted from a more extensive set of coding categories used by Martin (1965).

Each observer was assigned 6 children to observe. She coded the actions of three of these children toward any other child during a 5 minute period, then coded the actions of the three other children during a second 5 minute period. This procedure was repeated for as many times as was feasible while the class was in its classroom. Table IV-8 shows the composition of the class and the number of minutes each child was observed during our day of observation in each classroom. It should be noted that no

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middle income Negro children were included in the observation groups. Only one middle income Negro child (in Classroom 3) was enrolled during the last four weeks of the summer session, when the observations were done.

Reliability Observations

Prior to the social interaction coding procedure outlined above, we spent ten minutes in each class in a check for reliability of our codings. The two observers observed the same six children--three of these for one 5 minute period, and the other three children for a second 5 minute period. Thus we have reliability data consisting of 5 minutes of observation on each of 6 children in each of the three classrooms. These data are summarized in Table IV-9. Reliability was not high: for the three classes combined, there was exact agreement between the two observers in only 47.8% of codings, and disagreement in 21.7% of codings. However, when only those interactions which were coded by both observers are considered, the per cent exact agreement rises to 68.8%. Both this fact and our discussions of cases of disagreement in ratings indicate that the difficulties in agreement were difficulties in spreading attention over the three children, and not in the category scheme as such. Disagreements in ratings occurred most often in cases where one observer was unable to see an interaction clearly or had missed some portion of it.

Amount and Distribution of Interaction in the Three Classrooms

Table IV-10 shows the mean number of codings per child per coding period in each of the three classrooms, and for the two racial/income groups in each of the two integrated classrooms. Rank-sum tests for differences between distributions (Dixon & Massey 1957, Pp. 289-290) yielded no differences at or beyond the .10 level of significance among the three classrooms or between the two racial/income groups within each of the two integrated classrooms. The difference between the lower income Negro children and the middle income white children in Classroom was the only one which approached statistical significance (P=.126). In this classroom, the observers felt that there was a difference between the two groups in degree of social activity. It seemed to us that the white children were more socially active in this class, especially within their own group, and that the Negro children, especially the girls, tended to be isolates in the classroom. Lower income Negro children and middle income white children were in about equal numbers here. In Classroom 2, in which there were more Negro than white children, amount of social activity for children of the two racial/income groups tended to be more nearly equal.

Table IV-11 illustrates more fully this difference that we observed between the two integrated classrooms, and indicates that the difference was not entirely one of amount of social activity, but was rather a combination of amount and distribution of social acts. In Classroom 2 a χ^2 test indicated that the distribution of social acts within and across racial/income groups did not differ from that which would be expected on the basis of the number of children in each of the two groups. In Classroom 3, however, the distribution of social acts did differ (at the .005 level of significance) from that which would be expected on the basis of numbers alone. Number of acts within the middle

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income white group was twice the expected number, and number of acts directed by lower income Negro children toward middle income white children was less than half the expected number. This accords with our observation that in this classroom the white children constituted a cohesive, active social group which the Negro children did not feel they could join. It was not clear to us whether the Negro children were actively excluded from this group or whether they felt unable to participate in the largely verbal and rather highly socially adapted exchange which went on within it. It seemed that either factor might be operating, depending upon the individual. On different occasions, we noted one case of exclusion of a Negro child, as well as a case of inclusion of a Negro child who did not, however, participate in the ongoing conversation. The statisical analysis has pointed to the largest, most visible group we saw in this classroom; it does not reflect another group we saw, that of the three Negro boys in the class, who formed a strong, though not exclusive, friendship group, which was joined at times by at least one of the white boys.

Two factors seem responsible for a lack of similar domination by a group of white children in Classroom 2: here there were more Negro than white children, and here also two of the white children tended to isolate themselves from social activity. The more numerous Negro children in this classroom did not form an exclusive social group, as indicated by the distribution of social acts in Table IV-11.

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Types of Social Interaction in the Three Classrooms

Table IV-12 lists the frequencies and percentages of coded acts falling in each coding category in the three classrooms. In our statistical analysis of these data, we combined the three major categories of aggressive, dominant-submissive, and affiliative acts, and compared the proportions of codings falling in these major categories in the three classrooms. Table IV-13 shows the results of this analysis. Classroom 3 had a significantly smaller proportion of aggressive acts than either of the other classrooms, while the other classrooms did not differ significantly from one another in proportion of aggressive acts. This finding was consistent with our observation that in Classroom 3 the teachers tended to control the children's behavior more closely than in the other two classrooms, often directing them into cooperative play, and tending somewhat to prohibit noise and movement, and with the fact that the dominant social group in Classroom 3 engaged to a large extent in socially adapted verbal exchange. The largest proportion of the aggressive acts which occurred in Classroom 3 was simply play aggression, while in the other two classrooms direct physical aggression was at least as frequent as play aggression.

Classroom 2 showed fewer acts categorized along the dominance-submission continuum than did the other two classrooms, though this difference was significant only at the .10 level. The lower proportion of acts in this category in Classroom 2 is accounted for by the fact that dominant and submissive acts were not seen there, but only cooperative interaction, whereas dominant and submissive acts were seen in the other two classrooms.

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There were no significant differences among the three classes in amount of affiliative interaction.

Inspection of the distribution of codings in our three classrooms (see Table IV-12) and a review of the above results indicates that our unintegrated classroom was not more different from the two integrated classrooms than they were from each other in type of social interaction.

Discussion of the Results of Social Interaction Codings

Observations in our two integrated classrooms point to one conclusion about the effects of integrated classrooms which surely might have been expected, namely, that the results are variable in the individual case, and depend upon relative numbers and the characteristics of the individual children involved. It is necessary to recall that within each classroom three factors might have operated to divide our two groups. First, the racial difference which existed was of course noticed by the children, and a few incidents mentioned to us by the teachers suggested that some of our children were subject to feelings that persons of the other race were strange or different (e.g., one child referring to another as a "nigger"; another child commenting that perhaps a kitten walked away from one of the teaching aides because it didn't "like black people"; another saying to a teacher's husband "You're a white man.") Second, these children differed according to the income level of their families, and related with the difference was a difference in IQ. Third, these children might also have been expected to have formed friendships with other children of the same racial/income group prior to the summer's experience: the middle income white children were all drawn from the

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regular population of the Ancona School, so many of them had known one another in school; the lower income Negro children in the integrated classrooms all lived in a closely spaced group of buildings near the school, and often played together after school, as they had prior to the summer experience.

Despite these factors which might serve to divide the children, the integrated classroom seemed to be successful in Classroom 2. At the beginning of the summer the teachers in this classroom commented in a staff meeting that the Negro children in their class were quite open to the white children, and were reaching out toward them in friendly gestures, but that the white children, whom they felt were a generally timid group, were not responding to these overtures. Our social interaction codings, done during the sixth week of school, suggest that this initial distance had been overcome. The distribution of social acts within and across groups did not differ from that which would be expected simply on the basis of numbers in each group.

Integration within the classroom seemed less successful in Classroom 3. Here, the white children were initially at an advantage because of their familiarity with the nature of the Montessori classroom, and they were equal in numbers to the Negro children. Our social interaction codings showed that they tended to form a somewhat exclusive group which dominated the social interaction in the classroom. Most active in this dominant group were two older children whom the teacher often used to instruct the newcomers, and who consequently felt somewhat superior in the classroom.

Our comparison of all three classrooms in terms of types of social interaction indicates that the fact of integration did not affect the

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amount or quality of social interaction in the classroom, at least in the gross manner in which we measured these.

Summary and Discussion

In our study of the effects of integration in our two summer classrooms, we have necessarily focused upon the reactions of the lower income Negro and middle income white children, and not upon the reactions of the middle income Negro group, since only one child in the last group remained for the last four weeks of the session.

In the sociometric study, we found that in Classroom 2, both lower income Negro and middle income white groups increased in choice of the other group. Lower income Negro children also showed a decline in choice of their own group. In Classroom 3, only middle income white children increased in choice of the other group and decreased in choice of their own group. Lower income Negro children showed no change in choice of the other group and increased in choice of their own group. (They had chosen mostly middle income Negro children on the first test.)

In our classroom observations during the fifth and sixth weeks of school, we found that in Classroom 2 the amount and distribution of social acts within and between groups did not differ from that which would be expected on the basis of the number of children in each group. In Classroom 3, however, there was more interaction within the middle income white group, and fewer acts by lower income Negro toward middle income white children, than would be expected simply on the basis of numbers in each group.

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Both sociometric and observation data point to only limited success of integration in Classroom 3, while in Classroom 2 it appeared fully successful. Classroom 2 differed from Classroom 3 in several respects which seem relevant to the success of integration there: the lower income Negro children constituted more than half the class; the middle income white children tended, according to their teachers, to be timid and withdrawn; and there were no visible friendship groups in the class. In this classroom the teachers noted in the first few weeks that all the children were rather shy, but the lower income Negro children were at least making attempts to reach out to the other children. Thus there was initially a lack of developed social relationships in the class, and a tendency for the more numerous lower income Negro children to be open to the formation of friendships It was our impression in informal observations in this class that as the summer progressed, each group in this classroom developed in the direction of the other group, the lower income Negro children becoming more task-oriented, while the middle income white children, who were somewhat immature socially, became more expressive.

In Classroom 3, where integration was not as successful, there were equal numbers of lower income Negro and middle income white children; the middle income white children had a privileged status in the classroom due to their familiarity with the Montessori class; and visible friendship groups were formed within each of the two groups. It appeared to us that the middle income white children attained a favorable status because they were more self-assured in the classroom and because some of them (in particular, two older children) were used by the teacher to instruct the newcomers to the class. Partly because of the status this gave them, and partly because of their social maturity, they tended to draw together in a group which dominated the classroom. The sociometric choices and the observation suggest that the new children--the lower income Negro group--were not free to or did not care to approach this group. We noted that one small group of boys was formed within the lower income Negro group, centered around one boy who began to gain status in the classroom. Thus it seems possible that a status orientation among the children contributed to division and lack of social fluidity in the class.

These observation in our two integrated summer classrooms point to two tentative conclusions. It appears that integration in the classrooms was enhanced when the children felt comfortable and therefore free to extend themselves to other children; this was the case among the more numerous lower income Negro children of Classroom 2 and the middle income white children of Classroom 3 who were more familiar with the classroom routine. Integration appears to have been retarded by classroom arrangements which conferred higher status on one group, as in Classroom 3. Such arrangements seem likely to inhibit the type of mutual profit from integration that we noted in Classroom 2.

We do not have observations of the winter classroom groups, but the lack of change in sociometric choices in that group, and the tendency of the two middle income groups to ignore the lower income children in their sociometric choices, suggest that interaction between the lower income Negro group and the two middle income groups was limited in amount. It may be that there was less social interaction within the winter classrooms,

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because the children were younger, and not because of any division in the class. In informal visits to the class, observers have noted that whereas the lower income Negro children were initially shy and constricted as a group, by the end of the year they were engaging fully in classroom activities.

Our sociometric and observational studies point to the necessity for a continued awareness of the social interaction within the classroom if integrated classrooms are to work. We found that in our summer Classroom 3, the Montessori class, the teacher was able to encourage more interaction between the two groups of children during the last few weeks of school, after we had discussed our observations with her.

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Table IV-1 First Three "Like" Choices (Own Class)

Summer Program

a. Classroom 2

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	79.9	0	18.8	47.0	0	51.7
Middle Income White	25.0	37.5	37.5	55.5	11.1	33.3

b. Classroom 3

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	30.0	50.0	20.0	38.5	38.5	22.0
Middle Income White	16.6	33.2	49.8	49.8	16.6	33.2

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Table IV-2 All "Like" Choices (Own Class)

Summer Program

a. Classroom 2

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	62.7	5.7	30.5	63.8	11.0	26.4
Middle Income White	47.7	15.9	37.1	70.0	0	30.0

b. Classroom 3

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	34.2	37.8	30.6	37.4	35.2	29.6
Middle Income White	14.4	43.2	43.2	33.5	33.5	33.5

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Table IV-3 First Three "Like" Choices (Other Class)

Summer Program

a. Classroom 2 Choosing Classroom 3

Percentage [illegible] of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	74.2	21.2	5.3	67.5	9.0	12.5
Middle Income White	11.1	11.1	77.8	22.2	0	77.8

b. Classroom 3 Choosing Classroom 2

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	80.6	4.8	14.3	70.0	0	30.0
Middle Income White	16.6	0	63.4	0	0	100.0

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Table IV-4 "Don't Like" Choices (Own Class)

Summer Program

a. Classroom 2

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	78.0	0	22.0	91.0	9.0	0
Middle Income White	80.0	0	20.0	100.0	0	0

b. Classroom 3

Percentage Distribution of Choices

	Time 1			Time 2		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	50.0	40.0	10.0	60.0	10.0	30.0
Middle Income White	50.0	17.0	33.0	80.0	0	20.0

Table IV-5 All "Like" Choices (Own Class)

Winter Program

Percentage Distribution of Choices

	Time 1			Time 2			Time 3		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	19	15	66	28	16	56	21	14	65
Middle Income Negro	5	40	55	5	43	52	5	25	70
Middle Income White	13	16	71	12	22	66	8	20	72

Table IV-6 All "Like" Choices (Other Class)

Winter Program

Percentage Distribution of Choices

	Time 1			Time 2			Time 3		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	35	17	48	17	35	48	50	16	34
Middle Income Negro	8	17	75	35	24	41	9	0	91
Middle Income White	14	8	78	16	9	75	6	12	81

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Table IV-7 "Don't Like" Choices (Own Class)

Winter Program

Percentage Distribution of Choices

	Time 1			Time 2			Time 3		
	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White	Lower Income Negro	Middle Income Negro	Middle Income White
Lower Income Negro	33	33	33	11	22	64	28	28	44
Middle Income Negro	0	33	67	18	9	73	30	20	50
Middle Income White	17	34	49	46	11	43	31	21	48

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Table IV-8

Duration of Social Interaction Codings and Composition of the Group Observed in Each of the Three Classrooms

	Composition of Group Observed					
	Lower Income Negro Children		Middle Income White Children			
Classroom	Boys	Girls	Boys	Girls	Total Number of Children Observed	Minutes of Observation Per Child
1	5	7			12	10
2	3	5	1	2	11	15
3	2	3	2	4	11	15

Table IV-9

Reliability of Social Interaction Codings: Agreement Between the Two Observers in Five Minutes' Observation of Six Children in Each of the Three Classrooms

	Classroom 1		Classroom 2		Classroom 3		Combined Classrooms	
	No. of Codings	% of Codings	No. of Codings	% of Codings	No. of Codings	% of Codings	No. of Codings	% of Codings
Exact Agreement in Codings	3	60.0	3	42.9	5	45.5	11	47.8
Disagreement in Codings	0	0.0	1	14.3	4	36.4	5	21.7
Not Coded by Observer 2	2	40.0	3	42.9	2	18.2	7	30.4
Total Codings--Observer 1	5		7		11		23	

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Table IV-10

Social Interaction Frequency in the Three Classrooms

	No. of Codings Per Child Per 5-Minute Coding Period
Classroom 1	
All Children (Lower Income Negro)	1.2
Classroom 2	
Lower Income Negro	1.4
Middle Income White	1.1
All Children	1.3
Classroom 3	
Lower Income Negro	.8
Middle Income White	1.8
All Children	1.4

Table IV-11

Number of Codings of Social Interaction Falling in Each of Four Agent/Object Classes in the Two Integrated Classrooms

Classroom 2

	Observed	Theoretical
Lower Income Negro Agent to Lower Income Negro Object	28	22.75
Lower Income Negro Agent to Middle Income White Object	5	8.51
Middle Income White Agent to Middle Income White Object	1	3.22
Middle Income White Agent to Lower Income Negro Object	9	8.51

$\chi^2 = 4.22$ $P > .10$

Classroom 3

	Observed	Theoretical
Lower Income Negro Agent to Lower Income Negro Object	9	9.27
Lower Income Negro Agent to Middle Income White Object	3	11.16
Middle Income White Agent to Middle Income White/Negro Object	26	13.36
Middle Income White Agent to Lower Income Negro Object	7	11.16

$\chi^2 = 19.49$ $P < .005$

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Table IV-12

Social Interaction Codings Classified by Coding Category for Each of the Three Classrooms

		Classroom 1*		Classroom 2		Classroom 3	
		No.	%	No.	%	No.	%
A0	Play Aggression	2	6.7	7	16.3	5	11.1
A2	Indirect Aggression	3	10.0	6	14.0	1	2.2
A3	Verbal Aggression			2	4.6		
A4	Physical Aggression	5	16.7	7	16.3	1	2.2
D1	Submission	1	3.3			1	2.2
D2	Cooperative Interaction	4	13.3	5	11.6	7	15.6
D3	Diplomatic Control	1	3.3			4	8.9
D4	Authoritarian Control	2	6.7				
F1	Joins Activity	1	3.3	4	9.3	1	2.2
F2	Affiliation	11	36.7	12	27.9	22	48.9
F4	Physical Affection					1	2.2
W1	Refusal of Involvement					1	2.2
R	Rejection					1	2.2
		30		43		45	

* Observed each child only 10 minutes, as opposed to 15 minutes per child for the other two classrooms.

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Table IV-13

a. Comparison of the Three Major Types of Social Act in the Three Classrooms

Types of Social Act	Classroom 1 No.	Classroom 1 %	Classroom 2 No.	Classroom 2 %	Classroom 3 No.	Classroom 3 %
Aggression (A0 to A4)	10	33.4	22	51.2	7	15.5
Dominance-Submission (D1 to D4)	8	26.6	5	11.6	12	26.7
Affiliation (F1 to F4)	12	40.0	16	37.2	24	53.3

b. t Test for Significance of the Difference Between Proportions of the Three Major Types of Social Act

	Classrooms 1 - 2	Classrooms 1 - 3	Classrooms 2 - 3
Aggression (A0 to A4)	N.S.	$P < .10$	$P < .01$
Dominance-Submission (D1 to D4)	$P < .10$	N.S.	$P < .10$
Affiliation (F1 to F4)	N.S.	N.S.	N.S.

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Appendix of Instruments Used in the Research

1. Categories for Describing Classroom Observations
2. Ratings of Behavior During Individual Intelligence Testing
3. Instructions to Teachers, Goodenough Draw-a-Man Test
4. Length Conservation Test
5. Scoring Instructions, Length Conservation Test
6. Egocentrism Test
7. Teachers' Ratings of Behavior
8. Social Interaction Coding Categories

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Categories for Describing Classroom Observations

For each of these topics, give a general statement supported by examples. General statement and examples should be drawn from your single day of observation. Additional comments based on previous contact with the class can be added, but should be clearly indicated. Report should include (1) running account of observations, timed; (2) comments and examples for each of these topics.

Classroom Order
- General tone
- Amount of control
- Methods of control
- What are the rules?
- Consistency of rules (in one teacher, or among teachers)
- Meaningfulness of the order to the children
    - Do they understand the rules?
    - Are the rules in accord with their concerns

Classroom Structure
- Supervised vs. unsupervised activities
    - Proportions of each
    - Nature of each (content, duration, complexity, social organization)
    - Is supervision continual?
- Typical size of group--and amount of shifting
- To what extent does classroom social structure revolve around the teacher?

Teacher's Instructional and Emotional-Social Behavior (For each of these topics, how do the children react?)
- Attention to individual children
    - Duration
    - To whom
    - Content
- Consideration of individual children
    - Awareness of problems and feelings
    - Encouragement, support
- Encouragement of personal responsibility
    - Method
    - Circumstances
- Encouragement of personal initiative
    - Method
    - Circumstances
- Verbalization
    - Teacher verbalizes
        - Frequency
        - Complexity
        - Topics
        - To group or individual?

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Categories for Describing Classroom Observations

(Continued)

- Teacher encourages children to verbalize
  - Method
  - Context
- Teacher discourages verbalization
  - When?
  - How?

Content of material taught

- Instruction
  - Giving information
  - Structuring problems
  - Is teacher successful, in these activities, in getting idea across to the child?
  - Clarity, simplicity, from your point of view
- Encouraging children's self-expression
  - Does teacher achieve this?
  - What is the nature of the self-expression?

ANCONA SCHOOL HEAD START PROGRAM
RATINGS OF BEHAVIOR DURING INDIVIDUAL INTELLIGENCE TESTING

Name ____________ Date ____________ Stanford-Binet Form _____ Examiner ____________

Distractibility

1	2	3	4	5	6	7	8	9
Completely absorbed by task. Maintains interest throughout, remains oriented to E between items		Interested & attentive, with little attention to things external to the test		Normal attentiveness. Tasks elicit sufficient attention, though attention may occasionally wander between items		Attracted by things external to the test, but can return to task. If child tries to maintain attention, it is with some effort		Difficult to get and hold attention

Activity level

1	2	3	4	5	6	7	8	9
Hyperactive; activity out-of-bounds		Quite active, but with control of own activity		Fairly active, but able to sit quietly for the testing		Rather sedentary, slow; or somewhat constricted in action (Circle which)		Depressed or very constricted (Circle which)

Speed of response - Verbal items

1	2	3	4	5	6	7	8	9
Responds very rapidly to instructions		No hesitation in responding		Some deliberation, but responses not generally slow		Usually slow to respond		Slow to respond; urging needed

Speed of response - Performance items

1	2	3	4	5	6	7	8	9
Responds very rapidly to instructions		No hesitation in responding		Some deliberation, but responses not generally slow		Usually slow to respond		Slow to respond; urging needed

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Page 2 - Behavior Ratings During Test

Initiative in dealing with test materials

1	2	3	4	5	6	7	8	9
Impulsively handles materials, begins own tasks		May begin to handle materials, may feel he knows what to do		Waits for instructions, but eager to begin		Responds to instructions, but does not initiate activity; is not "set" to begin until. instructions given		Urging needed to respond

Self-confidence on tasks

1	2	3	4	5	6	7	8	9
Over-confident; does not recognize own limitations		Quite confident in own ability. Answers assertively		Realistically self-confident. May show recognition of own limitations; responds matter-of-factly		Some distrust of own ability, hesitancy		Distrusts own ability. Hesitant in response; may express concern about adequacy of responses

Persistence

1	2	3	4	5	6	7	8	9
Can't give up, even after much effort		Very persistent; difficult tasks lead to redoubled effort		Some persistence; doesn't give up without trying		Tendency to give up after first attempt unsuccessful		Gives up easily, when answer does not come almost immediately

Reaction to failure

0		[illegible]	[illegible]	3	4	5	6	7
Ignores failure; success or failure not an issue		Aware of failure, but shows no discomfort, and does not need reassurance		Some discomfort at failure can be seen, but confidence easily restored		Disconcerted by failure, needs frequent reassurance		Withdrawing, hostile or denying (Circle which)

Page 3 - Behavior Ratings During Test

Sense of intellectual challenge

1	2	3	4	5	6	7	8	9
Hard tasks elicit greater interest and a sense of challenge		Hard tasks are met with special effort		Effort expended on problem is appropriate to level of difficulty, but there is no sense of challenge		Apparently more comfortable with easy tasks		Prefers only easy tasks

Willingness to continue with test

1	2	3	4	5	6	7	8	9
Eager to continue		Maintains active interest		Mild interest in tasks; continues to try		Loses interest in tasks, but continues to comply		Actively seeks termination

Fear of adult

1	2	3	4	5	6	7	8	9
No shyness; quite self-assured		Rather confident		Neither confident nor fearful		Rather timid		Painfully shy, constricted

Social initiative with adult

1	2	3	4	5	6	7	8	9
Attempts to dominate the situation		Often initiates social interchange		Responsive, but usually does not initiate social interchange		Rather passive		Never takes initiative; responses minimal

Communication of affect

1	2	3	4	5	6	7	8	9
Almost no inhibition of affective expression		Expresses affect freely, but with self-control		Occasional expression of affect		Tends to inhibit affect, or rather flat (Circle which)		Very flat; no emotional expression

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Page 4 - Behavior Ratings During Test

Compliance with adult

1	2	3	4	5	6	7	8	9
Extremely sensitive to adult's wishes; constantly looks to adult for permission to act		Tends to ignore own needs; rather anxious to comply		Makes own needs known, but quite willing to comply		Somewhat unwilling to comply		Actively negativistic

Verbalization

1	2	3	4	5	6	7	8	9
Speech perfectly clear and understandable		Occasional errors within generally good speech		Speech adequate; there are errors, but speech is still easily understood		Speech sometimes difficult to understand. This may be true especially when speaking rapidly		Speech very difficult to understand

Descriptive comments (a sentence or two, with examples if possible):

Articulation:

Structure:

Vocabulary:

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Instructions to Teachers

Goodenough Draw-a-Man Test

Instructions to children:

"Make me a picture of a man. Make the very best man you can."

Children should be seated, with pencil and paper, when instructions are given. Pencils should have erasers.

If necessary, encourage individual children to finish drawing, to do their best--but do not praise any child. Use care in suggesting that a child finish his drawing. The criterion for making this suggestion should be that the child is obviously leaving the drawing without filling his own criteria for finishing.

If a child draws just a face, say "Make the whole man," and allow him to elaborate on what he has done, or give him a new piece of paper if he wants it. He may not respon to this with a full figure, but don't push him beyond a second drawing or an elaboration of the first. Please note on individual drawing if the additional instruction was given.

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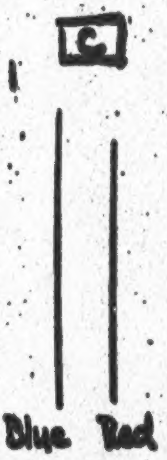
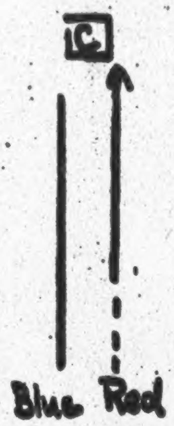
Length Conservation - Headstart Research Form



Material: 4" and 4¼" sticks

1. Here are two sticks (one red 4" and one blue 4¼", placed parallel to child's line of sight, with ends farthest from child aligned). One is bigger than the other--one is longer. You don't need to show me, but can you see that one is bigger than the other?

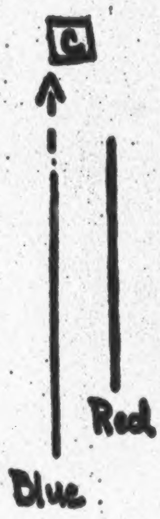
Yes No



Now I put them like this (place finger in center of red stick and slide it toward child so that it extends about ½" beyond other stick). Now I want you to show me, to point to, the bigger one, the longest one.

____ Picks longer blue: move to Q3

____ Picks shorter red: move to Q2



2. (Give this question only if picked shorter on Question 1)

(If pieces have been moved so that red stick is not advanced toward child, replace them in this position.) You told me this was the biggest one (point to red). (Place finger in center of blue stick and move it toward child so that it extends about ½" beyond other stick.) Now show me the big one.

____ Picks blue stick: move to 2a

____ Picks shorter red stick: move to 2b

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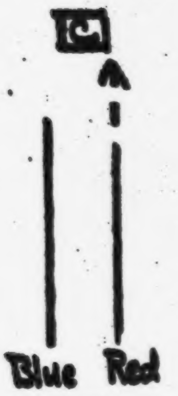
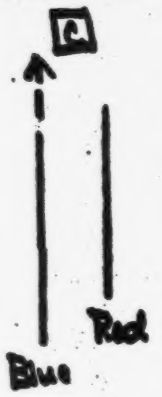
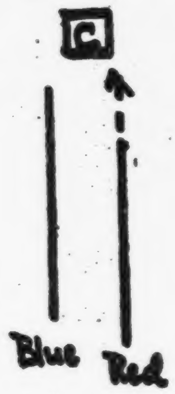


a. __If longer blue stick is now chosen__: (Replace sticks in original position, with ends farthest from child aligned, and then move red stick toward child so that it extends ½" past blue) Before you said this (point to red) was biggest. Now (move blue stick toward child so that it extends ½" beyond other stick) you say this (point to blue) is bigger. Do they really change bigness?



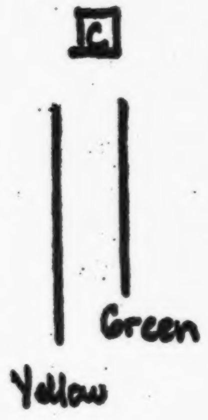
How is that?



b. __If shorter red stick is again chosen__: (Move red stick toward child so that ends of stick farthest from child are aligned.) You said this (point to red) was biggest. Is it biggest now?

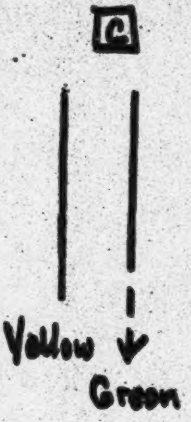
Do they really change bigness?

__Go on to Question 5.__



3. __(Give this question only if picked longer blue on Question 1)__ Here are two more sticks. (Take two other sticks, one 4" green and one 4¼" yellow. Place them parallel to child's line of sight, with ends closest to child aligned.) One is bigger than the other; one is longer. You don't need to show me, but can you see that one is bigger than the other?

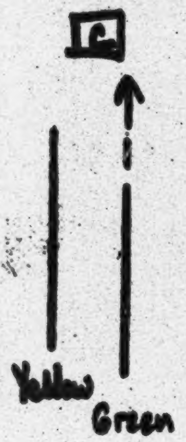
Yes No



Now I put them like this (place finger in center of green stick and move it away from child so that it extends about ½" beyond the yellow stick.) Now I want you to show me, to point to, the bigger one, the longest one.

____ Picks longer yellow stick: move to Q5

____ Picks shorter green stick: move to Q4

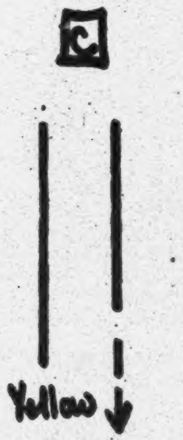


4. (Give only if picked shorter green on Question 3)

(If pieces have been moved so that green stick is not advanced away from child, replace in this position.) You told me this (point to green) was the biggest one. (Place finger in center of short green stick and move it toward child so that it extends ½" beyond other stick.) Now show me the big one.

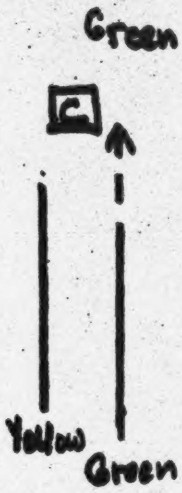
____ Picks longer yellow stick: move to 4a

____ Picks shorter green stick: move to 4b



a. If longer yellow stick is now said to be bigger: Before (replace sticks in original position, with ends closest to child aligned, and then move green stick away from child) you said this (point to green) was biggest. Now (move yellow stick away from child so that it extends ½" past other) you say this (point to yellow) is bigger. Do they really change bigness?

How is that?



Move to Question 5.

b. If shorter green stick is again picked:

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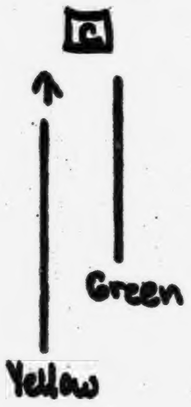


(Move yellow stick toward child so that ends of sticks closest to child are aligned.) You said this (point to green) was biggest. Is it biggest now?

Do they really change bigness?

Move to Q5.

5. Here are two sticks (one red 4", one yellow 4¼", randomly arranged, non-parallel). Show me the bigger one.

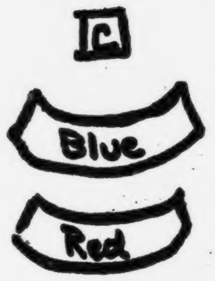
____ Picks longer yellow stick

____ Picks shorter red stick

____ Measures

Show me how you can tell which is bigger. How can you make sure?

If no measuring: If I thought this (child's non-choice) is the bigger one, how could you show me it's not?

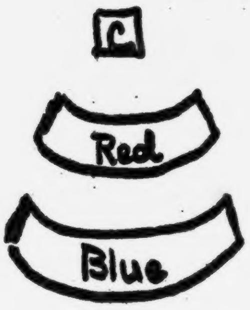


6. (Give this question only if picked longer sticks consistently on preceding.) Ring segment: 2 segments, one red of 2", one blue of 2¼" (across bottom arc). Here are two boards. (Bigger blue one at bottom.) Can you see that one is bigger than the other?

____ Measures

____ Yes

____ No



Now watch. I change their places. (Lift red and place it below blue.) Now show me the one that is bigger.

____ Chooses bigger top blue: move to 6b

____ Chooses smaller bottom red: move to 6a

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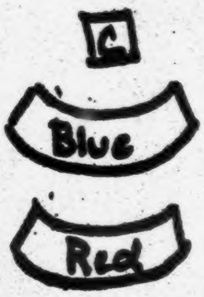

a. If chooses smaller bottom red: Now look, this (the red on bottom) is biggest. Now I put it here (on top). Is it still the biggest? or is it smaller now?

How is that?

If says blue is now bigger: Did it really change from big to small?

Move to Question 7.

b. If chooses top blue: How did you know that it was bigger?

Did it look bigger?

Move to Question 7.

7. How can you tell for sure which is bigger?

If no measuring: If I thought this (child's non-choice) is the bigger one, how could you show me it's not?

SCORING

1. Measures
2. Conserves on sticks (no incorrect responses)
3. Conserves on ring segments (no incorrect responses)

Level 1: No measuring, no conservation.
Level 2: Measures, no conservation.
Level 3: Measures, conserves on sticks, does not conserve on ring segments.
Level 4: Measures, conserves on sticks and ring segments.

1290

SCORING LENGTH CONSERVATION

Q1: +: Picked longer blue
-: Picked shorter red (reverse illusion)

Q2: +: Picked red (conserves choice)
-: Picked blue

Q3: +: Picked longer yellow
-: Picked shorter green (regular illusion)

Q4: +: Picked green (conserves choice)
-: Picked yellow

Response Pattern is designated by number as follows:

	Q1	Q2	Q3	Q4	
1	+		-	-	Nonconservation, regular illusion
2	-	-			Nonconservation, reverse illusion
3	+		-	+	Partial conservation, regular illusion
4	-	+			Partial conservation, reverse illusion
5	+		+		Total conservation

---

1. Discriminates correctly

+: Picks yellow on Q5: or
Picks red on Q5, but then measures and indicates he knows yellow is bigger; or
Spontaneously says that long stick is longer on any question when the ends are still aligned

-: Picks red on Q5, and there is no indication that length is discriminated

0: Not asked or no information

---

2. Has some notion of measurement

+: Any of following: (Score + or - and letter which applies)

a. Examiner indicates child measures, but does not indicate how he measures
b. Shoves together with ends of long overlapping and including ends of short

12903

- c. Alignment of ends with sticks flat on table or stood on end
- d. Uses hands as measuring device
- e. Uses verbal concept of measuring

-: Any of following:

- a. No indication of measuring
- b. Shoving sticks together in advanced position
- c. I don't know

---

3. Conserves at least partially

+: Response patterns 3, 4, 5

-: Response patterns 1, 2

---

4. Believes change is not real

+: Response pattern 5
Says no to questions about whether they really change

-: Says yes to questions about whether they really change
Gives contradictory responses; both yes and no
Says doesn't know

0: Not asked or no response

---

5. Consistently conserves

+: Response pattern 5

-: Response patterns 1, 2, 3, 4

12904

SCORING RING SEGMENT PORTION OF LENGTH CONSERVATION TEST

Q6: +: Chooses blue
-: Chooses red

6a: +: Chooses red
-: Chooses blue

Response Pattern is designated by number as follows:

	Q6	Q6a	
1	-	-	Nonconservation
2	-	+	Partial conservation
3	+		Total conservation

---

1. **Totally conserves**

+: Response pattern 3

-: Response patterns 1, 2

12905

ANCONA RESEARCH PROJECT

EGOCENTRISM TEST

Name ______________________________

Date ______________________________

Examiner ____________________________

Materials: paper house, one side with windows but no door, and one side with door but no windows.

1. Here is a house. Look at it carefully, and then I'll ask some questions about it. (Show both sides.)

2. (Hold house somewhat below eye level so E can only see side with windows and child can only see side with door.)

Does the house have windows?	Yes	No
Does the house have a door?	Yes	No
Does the house have a tree by it?	Yes	No
Do I see the windows now?	Yes	No
Do I see the door now?	Yes	No
Do you see the windows now?	Yes	No

Score correct if:

Says house has windows
E can see windows
Child can't see windows
E can't see door

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ANCONA SCHOOL HEAD START PROGRAM
TEACHER'S RATINGS OF BEHAVIOR

Name ______________ Date ______________ Teacher ______________

Distractibility, when engaged in an individual activity

1	2	3	4	5	6	7	8	9
Completely absorbed by tasks.		Interested in the task, with little attention to things external to it.		Normal attentiveness. Tasks elicit sufficient attention, though attention may occasionally wander.		Attracted by things external to the task, but can return to it. Sustained attention is difficult.		Difficult for him to focus his attention on an activity.

Activity level

1	2	3	4	5	6	7	8	9
Hyperactive; activity out-of-bounds.		Quite active, but with control of own activity.		Fairly active, but able to sit quietly when this is required.		Rather sedentary, slow; or somewhat constricted in action (Circle which)		Depressed or very constricted (Circle which)

Initiative in dealing with classroom materials

1	2	3	4	5	6	7	8	9
Impulsively handles materials		May begin to handle materials, may feel he knows what to do.		Waits for help, but eager to begin.		Responds to instructions, but does not initiate activity.		Urging needed to engage in the activity.

Self-confidence on tasks

1	2	3	4	5	6	7	8	9
Over-confident; does not recognize own limitations.		Quite confident in own ability; assertive attitude.		Realistically self-confident. May show recognition of own limitations; matter-of-fact attitud		Some distrust of own ability; hesitancy.		Distrusts own ability. Hesitant. May express concern about adequacy of his actions.

Page 2 - Teacher's Ratings of Behavior

Persistence

1	2	3	4	5	6	7	8	9
Can't give up, even after much effort.		Very persistent; difficult tasks lead to redoubled effort.		Some persistence; doesn't give up without trying.		Tendency to give up after first attempt unsuccessful.		Gives up easily, when success does not come almost immediately.

Reaction to failure

0	1	2	3	4	5	6	7
Ignores failure; success or failure not an issue.	Aware of failure, but shows no discomfort, and does not need reassurance.		Some discomfort at failure can be seen, but confidence easily restored.		Disconcerted by failure; needs frequent reassurance.		Withdrawing, hostile, or denying (Circle which)

Sense of intellectual challenge

1	2	3	4	5	6	7	8	9
Hard tasks elicit greater interest and a sense of challenge.		Hart tasks are met with special effort.		Effort expended on a problem is appropriate to the level of difficulty, but there is no sense of challenge.		Apparently more comfortable with easy tasks.		Prefers only easy tasks.

Fear of adults

1	2	3	4	5	6	7	8	9
No shyness; quite self-assured		Rather confident		Neither confident nor fearful		Rather timid		Painfully shy, constricted

Social initiative with adults

1	2	3	4	5	6	7	8	9
Attempts to dominate the situation		Often initiates social interchange		Responsive, but usually does not initiate social interchange		Rather passive		Never takes initiative; responses minimal

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Page 3 - Teacher's Ratings of Behavior

Communication of emotion

1	2	3	4	5	6	7	8	9
Almost no inhibition of emotional expression		Expresses emotion freely, but with self-control		Occasional expression of emotion		Tends to inhibit emotion, or rather flat (Circle which)		Very flat; no emotional expression

Compliance with adults

1	2	3	4	5	6	7	8	9
Extremely sensitive to adult's wishes; constantly looks to adult for permission to act		Tends to ignore own needs; rather anxious to comply		Makes own needs known, but quite willing to comply		Somewhat unwilling to comply		Actively negativistic

Verbalization

1	2	3	4	5	6	7	8	9
Speech perfectly clear and understandable		Occasional errors within generally good speech		Speech adequate; there are errors but speech is still easily understood		Speech sometimes difficult to understand. This may be true especially when speaking rapidly		Speech very difficult to understand

Descriptive comments (optional):

Articulation:

Structure:

Vocabulary:

12908

SOCIAL INTERACTION CODING CATEGORIES

AGGRESSION (A)

A_0 Play aggression. Engaging in a playful manner in actions which are aggressive in form. The playful quality is clear to the observer and is recognized by the child to whom the action is directed. The other child may participate in a contest of mock aggressiveness or actual opposition of strength, or he may simply fail to object to the actions. Includes play which has simply become overly vigorous and play which is intended to be mock-aggressive.

A_1 Displaced or objectless aggression. Aggression directed to physical objects not belonging to another child, such as dolls, toys, etc. Also includes verbalized aggression without specific objects.

A_2 Indirect aggression. Attempt to achieve the discomfort of another through belittling him, enlisting others of the group to act aggressively towards him, pointing out a real or fancied deviation from rules to an adult (e.g., "Teacher, he threw a block at me.")

A_3 Verbal aggression. Name-calling, threats, etc., which may be accompanied by gestures, but not actual physical assault. Can be in retaliation for real or perceived injury, physical or verbal.

A_4 Active physical aggression. Physical injury, or the attempt to injure another. May be accompanied by verbal aggression and may be in retaliation for a real or perceived injury, physical or verbal. Also includes damage, or attempted damage, to the property of another.

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DOMINANCE (SUBMISSION)

D_1 Submission. Obeys direction from others without trying to direct or influence the other.

D_2 Cooperative interaction. Cooperation, discussion about common activity, mediation.

D_3 Diplomatic control. Use of personal resourcefulness as a means of assuming, or maintaining control. Includes helping, suggesting, etc., with the intent, not just to facilitate the ongoing activity, but especially to control the situation.

D_4 Authoritarian control. Attempt to assume, maintain or extend dictatorial control of a situation. Includes giving directions, assigning roles, commanding others, either verbally or physically.

FRIENDSHIP (F)

F_1 Joins activity. Joins others engaged in activity where it does not appear that child is intending only to join teacher.

F_2 Affiliation. Approaches other in order to, and does, engage in verbalizations involving getting or giving attention, help, and social response from the other.

F_3 Verbal affection. Says "I like you," "Do you like me?" "I'm your friend," etc.

F_4 Physical affection. Holding, kissing, hugging, etc.

WITHDRAWAL (W)

W_1 Refusal of involvement in activity. Rejection of initiations by others for involvement in activity. Does not respond to social bids by others.

12911

W_2 Physical withdrawal. Actively leaves a situation where others seek or expect social interaction or participation. Reason is not preference for another activity as indicated by participation or intention to participate therein.

REJECTION (R)

R Rejection. Verbal rebuff of the social advance of another child. (e.g. "You can't play with us.")

REFERENCES

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Jackson, P. W. Teacher-pupil communication in the elementary classroom: An observational study. Paper read at the American Educational Research Association Meeting, February, 1965, Chicago.

Martin, W. Stability and change in social behavior. In C. B. Stendler (Ed.) *Readings in child behavior and development,* 2nd ed. Harcourt-Brace, 1965.